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Asian and Pacific Developing Economies: Performance and Issues — *V.G. Bhatia*

Development Experience in South Asia — *Sukhamoy Chakravarty*

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P 4624

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Asian and Pacific Developing Economies: Performance and Issues 1
V.G. Bhatia

Development Experience in South Asia 22
Sukhamoy Chakravarty

Asian Development: A View from the Paddy Fields 50
Yujiro Hayami

Informal Credit Markets in Asian Developing Countries 64
P.B. Ghate

Urbanization and Spatial Development in the Asian and Pacific Region: Trends and Issues 86
Ernesto M. Pernia

Asian and Pacific Developing Economies: Performance and Issues

V.G. Bhatia*

The year 1987 was important for many of the developing countries in the Asian and Pacific region since it was four decades earlier that these countries achieved their political independence. It seems, therefore, an appropriate time to review the past economic performance of the developing countries in the region and assess their future prospects. While the outlook for most of them appears optimistic, a number of problems persist and are likely to remain for some time to come. It is undeniable, however, that generally the achievements of the region as a whole have been impressive.

The Asian and Pacific region is both large and diverse, if for no other reason than the sheer size and distribution of its population (see Table 1). It accounts for more than half the people of the world. The population of the People's Republic of China alone is 1 billion, and more than 1 billion live in South Asia. About 360 million people live in Southeast Asia and more than 50 million in Hong Kong, Republic of Korea and the countries in the South Pacific.[1]

Growth Performance and the Quality of Life

In general, however, the people in the region are poor with annual per capita incomes of $500 or less, though in Southeast Asia and some of the small Pacific island countries, per capita incomes are higher. It is only in Fiji, Hong Kong, Malaysia, Republic of Korea and Singapore that annual per capita incomes are higher than $1,000 (see Table 1).

East Asia is clearly the most rapidly growing subregion largely due to the average annual per capita income growth rate of the Republic of Korea, Hong Kong and the People's Republic of China at 6.6 per cent, 6.1 per cent and 4.8 per cent, respectively, during the last 20 years. Southeast Asia is also growing rapidly. Its average per capita income grew at more than 4 per cent per annum

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* Adviser (Development Policy), Planning Commission, Government of India. The views expressed in this article are the author's personal views.

[1] For purposes of discussion in this article, the Asian and Pacific developing countries are grouped into four subregions: South Asia, Southeast Asia, East Asia and the South Pacific. However, only those countries for which relevant data are available are included. (For country groups, see Table 1. The presentation in the tables is in the descending order of magnitude of the main variable.)

Table 1: **Population and Per Capita Income in Selected Countries**

Country	Population 1985 (million)[a]	Per Capita Income 1985 ($)	Per Capita Income Average Annual Growth Rate 1965-1985 (%)
South Asia			
Sri Lanka	15.8	380	2.9
Pakistan	96.2	380	2.6
Maldives	0.2	290	1.9
India	765.1	270	1.7
Burma	36.9	190	2.4
Afghanistan	18.6	169[b]	..
Nepal	16.5	160	0.1
Bhutan	1.2	160	..
Bangladesh	100.6	150	0.4
Southeast Asia			
Singapore	2.6	7,420	7.6
Malaysia	15.6	2,000	4.4
Thailand	51.7	800	4.0
Philippines	54.7	580	2.3
Indonesia	162.2	530	4.8
Lao People's Dem. Rep.	3.6	147	..
Viet Nam	61.7	..	..
Cambodia	7.3	..	..
East Asia			
Hong Kong	5.4	6,230	6.1
Korea, Rep. of	41.1	2,150	6.6
China, People's Rep. of	1,040.3	310	4.8
South Pacific			
Fiji	0.7	1,710	2.9
Vanuatu	0.1	880	1.2
Tonga	0.1	730	..
Papua New Guinea	3.5	680	0.4
Western Samoa	0.2	660	..
Solomon Islands	0.3	510	3.5
Kiribati	0.1	460	..

.. = not available.

[a] Rounded to one decimal place.

[b] At 1978/79 prices.

Sources: World Bank, *World Development Report 1987* (New York: Oxford University Press, 1987); and Asian Development Bank, *Key Indicators of Developing Member Countries of ADB* (Manila, July 1987).

during the last two decades. This is reflected in the fact that even the slowest growing country in the subregion, viz., the Philippines, achieved an impressive average annual growth rate of 2.3 per cent during this period.

South Asia's growth performance has also been relatively impressive, particularly in recent years. Burma, Pakistan and Sri Lanka have shown annual per capita growth rates of 2.4 per cent, 2.6 per cent and 2.9 per cent, respectively, during the last 20 years. India's average yearly per capita growth rate increased to 1.7 per cent during this period. The economies of Bangladesh, Bhutan and Nepal, and most probably Afghanistan, have tended to stagnate.

The growth performance of the South Pacific developing countries has been mixed. Fiji and Solomon Islands have shown impressive annual per capita income growth rates of 2.9 per cent and 3.5 per cent, respectively, over the last two decades. Regardless of their growth performance, however, in terms of absolute magnitude, the per capita incomes of all these countries are higher than those of most of the developing countries in the region.

While the level of per capita income of most countries tends to be low, they exhibit wide differences in terms of quality of life as measured by various indicators. For purposes of the present discussion, the following variables are used to measure quality of life: life expectancy, infant mortality rate, child death rate, literacy rate, and access to food, education and shelter.

Life expectancy in the region falls between 44 and 76 years. However, several countries have a life expectancy of more than 60 years (see Table 2). These include: Hong Kong (76 years), Singapore (73 years), Sri Lanka (70 years), People's Republic of China (69 years), Republic of Korea (69 years), Malaysia (68 years), Fiji (65 years), Viet Nam (65 years), Western Samoa (65 years), Tonga (64 years), Thailand (64 years), and Philippines (63 years). It can generally be concluded that low per capita income and short life expectancy are correlated. However, the People's Republic of China and Sri Lanka have both demonstrated that it is possible to improve life expectancy at low levels of per capita income.

Although there are some exceptions, the experience in the region supports the view that life expectancy is strongly correlated with per capita income. In most South Asian countries, life expectancy is between 50 and 60 years, whereas in most Southeast Asian, East Asian and South Pacific countries where incomes are higher, it exceeds 60 years, and in countries for which per capita income exceeds $1,000, it exceeds 65 years. Burma and Sri Lanka have both achieved rather long life expectancies at rather low levels of per capita income, indicating that infant mortality and child death rates can be lowered if appropriate policies and programs are adopted systematically and with determination.

Life expectancy is closely linked to the infant mortality and child death rates. Thus, in the People's Republic of China and Sri Lanka where life expectancy is relatively long, the infant mortality rates are 35 and 36 per 1,000 live births, respectively, and the child death rate is only 2 per 1,000 children in both countries. In India, Pakistan, Indonesia and other countries where life expectancy is relatively short, the infant mortality and child death rates are rather high.

Table 2: **Correlation between Per Capita Income and Life Expectancy and Related Indicators in Selected Countries**

Country	Per Capita Income, 1985 ($)	Life Expectancy at Birth, 1985 (years)	Infant Mortality Rate 1985	Child Death Rate 1985
Hong Kong	6,230	76	9	(.)
Singapore	7,420	73	9	(.)
Sri Lanka	380	70	36	2
China, People's Rep. of	310	69	35	2
Korea, Rep. of	2,150	69	34	1
Malaysia	2,000	68	28	2
Fiji	1,710	65	35[a]	..
Viet Nam	..	65	49	4
Western Samoa	660	65	13[a]	..
Tonga	730	64	60[a]	..
Thailand	800	64	43	3
Philippines	580	63	48	4
Burma	190	59	66	..
Solomon Islands	510	58	52[a]	..
India	270	56	89	11
Vanuatu	880	56	42[a]	..
Indonesia	530	55	96	12
Kiribati	460	53	87[a]	..
Papua New Guinea	680	52	68	7
Bangladesh	150	51	123	18
Pakistan	380	51	115	16
Lao People's Dem. Rep.	147	45	151	23
Bhutan	160	44	133	20

.. = not available.

(.) = less than half the unit shown.

a 1980.

Notes: The infant mortality rate is the number of infants who die before reaching one year of age, per thousand live births in a given year.

The child death rate is the number of deaths of children aged 1-4 per thousand children in the same age group in a given year.

Sources: World Bank, *World Development Report 1987* (New York: Oxford University Press, 1987); and Asian Development Bank, *Key Indicators of Developing Member Countries of ADB* (Manila, July 1987).

The infant mortality rates in India, Pakistan and Indonesia are 89, 115 and 96 per 1,000 live births, respectively, while the child death rates are 11, 16 and 12 per 1,000 children (see Table 2).

Literacy and per capita income are also correlated in the Asian and Pacific region, though there are some exceptions (see Table 3). While the average overall literacy rate in South Asia is about 30 per cent and that for women alone is only about 20 per cent, the literacy rates in Southeast Asia, East Asia and the South Pacific are far higher.

In regard to secondary and higher education, the general observation can be made that the higher the level of per capita income, the more advanced the country in terms of enrollment in institutions of secondary education and higher learning, though there are also some exceptions (see Table 4).

Table 3: **Correlation between Per Capita Income and Literacy**

Country	**Per Capita Income, 1985 ($)**	**Rate of Literacy**[a] **(%)**
Singapore	7,420	84
Hong Kong	6,230	90
Korea, Rep. of	2,150	96
Malaysia	2,000	60
Thailand	800	86
Papua New Guinea	680	32
Philippines	580	83
Indonesia	530	62
Sri Lanka	380	86
Pakistan	380	24
China, People's Rep. of	310	69
India	270	36
Burma	190	66
Afghanistan	169[b]	20
Nepal	160	19
Bhutan	160	10
Bangladesh	150	26
Lao People's Dem. Rep.	147	44

a Varying years between 1975 and 1982.

b At 1978/79 prices.

Sources: World Bank, *World Development Report 1987* (New York: Oxford University Press, 1987); and Asian Development Bank, *Key Indicators of Developing Member Countries of ADB* (Manila, July 1987).

Table 4: **Secondary and Higher Education in Selected Countries, 1984**

Country	Number Enrolled in School as Percentage of Age Group			
	Secondary			Higher Education
	Total	Male	Female	Total
Korea, Rep. of	91	94	88	26
Singapore	71	70	73	12
Hong Kong	69	66	72	13
Philippines	68	65	71	29
Sri Lanka	61	58	64	4
Malaysia	53	53	53	6
Viet Nam	48	..	..	..
Indonesia	39	45	34	7
China, People's Rep. of	37	43	31	1
India	34	44	23	9
Thailand	30	..	..	23
Burma	24	..	..	5
Nepal	23	35	11	5
Bangladesh	19	26	11	5
Lao People's Dem. Rep.	19	22	15	1
Pakistan	15	..	..	2
Papua New Guinea	11	..	..	2
Bhutan	4	6	1	(.)

.. = not available.

(.) = less than half the unit shown.

Source: World Bank, *World Development Report 1987* (New York: Oxford University Press, 1987).

The daily per capita calorie supply is another important measure of the quality of life. If persistent hunger is assumed to occur below the 2,500 calorie per day level, then it is widespread in most South Asian countries and narrowly confined in most East and Southeast Asian countries (see Table 5). While definitive data are not available, persistent hunger probably also occurs in Lao People's Democratic Republic, Papua New Guinea and Viet Nam. It is generally assumed that hunger disappears above the $400 per capita income level. However, Bhutan and Burma have demonstrated that some countries are able to feed their populations quite adequately at per capita incomes below this level.

While it is undeniable that income distribution is an important index for

Table 5: **Calorie Supply and Food Production in Selected Countries**

Country	**Daily Calorie Supply Per Capita 1985**	**Average Index of Food Production Per Capita 1983-1985 (1979-1981 = 100)**
Philippines	3,263	103
Korea, Rep. of	2,841	109
Singapore	2,771	98
Hong Kong	2,698	108
Malaysia	2,684	116
China, People's Rep. of	2,602	125
Bhutan	2,571	110
Burma	2,547	129
Indonesia	2,533	117
Thailand	2,462	119
Sri Lanka	2,385	98
Viet Nam	2,240	122
Lao People's Dem. Rep.	2,228	129
India	2,189	120
Papua New Guinea	2,181	109
Pakistan	2,159	114
Nepal	2,034	116
Bangladesh	1,899	110
Afghanistan	..	104
Cambodia	..	153

.. = not available.

Source: World Bank, *World Development Report 1987* (New York: Oxford University Press, 1987).

judging the quality of life, reliable information is not available for many countries in the region. Further, where such information is available, it is outdated. A remarkable feature about the available data is the similarity of the income distribution pattern among countries (see Table 6). The highest quintile of households in terms of income accounts for about 50 per cent of total income and the highest 10 per cent of households for 35 per cent. The lowest 20 per cent of households, on the other hand, accounts for only 5-7 per cent of total income.

While income distribution is somewhat more equal in India and Bangladesh than in other developing countries in the region, India's per capita income is

Table 6: **Income Distribution in Selected Countries**
(Percentages)

		Percentage Share of Household Income by Percentile Groups of Households				
Country	**Year**	**Highest 10%**	**Highest 20%**	**Third Quintile**	**Second Quintile**	**Lowest 20%**
Malaysia	1973	39.8	56.1	12.4	7.7	3.5
Philippines	1985	37.0	52.5	13.2	8.9	5.2
Sri Lanka	1980/81	34.7	49.8	14.1	10.1	5.8
Thailand	1975/76	34.1	49.8	13.9	9.6	5.6
Indonesia	1976	34.0	49.4	12.6	7.8	6.6
India	1975/76	33.6	49.4	13.9	9.2	7.0
Hong Kong	1980	31.3	47.0	15.2	10.8	5.4
Bangladesh	1981/82	29.5	45.3	15.3	10.7	6.6
Korea, Rep. of	1976	27.5	45.3	15.4	11.2	5.7

Source: World Bank, *World Development Report 1987* (New York: Oxford University Press, 1987).

only $270 and that of Bangladesh only $150. This means that the average annual income of the poorest 20 per cent of households in India is less than $85 and in Bangladesh less than $58. Thus, in countries with higher average per capita incomes, the total average income of the poorest quintile of households is greater. For example, even though income inequality in the Philippines is among the greatest in the region, in absolute terms the per capita income of the poorest quintile of households is $151. It would thus appear that incremental increases in per capita income diminish poverty to a greater degree than changes in income distribution, given equal percentage changes in both variables.

In reaching conclusions from these data, it must be remembered that the existence of correlation between two variables is not sufficient evidence that one variable causes another. Nevertheless, the data suggest that the rate of growth of population is of significance. This is because rapid increases in population dilute the effect of growth in income to a greater degree than slower increases in population. The available data show that virtually all the developing countries in the region with per capita incomes exceeding $2,000 (Hong Kong, Republic of Korea and Singapore) have achieved a substantial degree of success in lowering their population growth rates (see Table 7).[2] Further, decreases in a country's population growth rate are obviously linked with success in family planning, which in turn is linked to the percentage of women of childbearing age practising contraception, the latter being linked to the average level of educational attainment among women.

While urbanization generally increases with rising per capita income (see Table 8), this is true of Asian and Pacific developing countries only in varying degrees. Most of the region's developing countries are about 25 per cent urbanized. Malaysia and the Philippines, however, are nearly 40 per cent

Table 7: **Demography and Fertility in Selected Countries**

	Average Annual Growth Rate of Population (%)			**Population (million)**		**Crude Birth Rate Per Thousand Population**	**Crude Death Rate Per Thousand Population**	**% of Married Women of Childbearing Age Using Contraception**
Country	**1965-1980**	**1980-1985**	**1985-2000**	**1990**	**2000**	**1985**	**1985**	
Pakistan	3.1	3.1	2.7	112	146	44	15	8
Philippines	2.8	2.5	2.2	55	67	33	8	32
Bangladesh	2.7	2.5	2.3	114	141	40	15	25
Thailand	2.7	2.1	1.6	57	66	26	8	65
Malaysia	2.5	2.5	1.9	17	21	30	6	51
Nepal	2.4	2.4	2.7	19	24	43	18	7
Papua New Guinea	2.4	2.6	2.2	4	5	37	13	4
India	2.3	2.2	1.8	843	996	33	12	35
Indonesia	2.3	2.1	1.8	179	212	32	12	40
Burma	2.2	2.0	1.9	41	49	30	11	5
China, People's Rep. of	2.2	1.2	1.3	1,116	1,274	18	7	69
Hong Kong	2.2	1.4	1.0	6	6	14	5	72
Korea, Rep. of	1.9	1.5	1.2	44	49	21	6	70
Sri Lanka	1.8	1.4	1.6	17	20	25	6	57
Singapore	1.6	1.2	0.9	3	3	17	5	74
Bhutan	1.5	2.2	2.3	1	2	43	21	..
Cambodia	1.4	2.0	2.8	4	5	42	19	..
Viet Nam	..	2.6	2.4	70	88	34	8	..

.. = not available.

Source: World Bank, *World Development Report 1987* (New York: Oxford University Press, 1987).

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[2] Among the low-income countries of the region, only the People's Republic of China and Sri Lanka have succeeded in substantially reducing their population growth rates. The current population growth rates for the People's Republic of China and Sri Lanka are 1.2 per cent and 1.4 per cent per annum, respectively.

Table 8: Urbanization in Selected Countries
(Percentages)

	Urban Population				Percentage Population in	
	As Percentage of Total Population		Average Annual Growth Rate (%)		Largest City	Cities of over 500,000 Persons
Country	1965	1985	1965-1980	1980-1985	1980	1980
Singapore	100	100	1.6	1.2	100	100
Hong Kong	89	93	2.3	1.3	100	100
Korea, Rep. of	32	64	5.7	2.5	41	77
Philippines	32	39	4.0	3.2	30	34
Malaysia	26	38	4.5	4.0	27	27
Pakistan	24	29	4.3	4.8	21	51
India	19	25	3.6	3.9	6	39
Indonesia	16	25	4.7	2.3	23	50
Burma	21	24	2.8	2.8	23	23
China, People's Rep. of	18	22	2.6	3.3	6	45
Sri Lanka	20	21	2.3	8.4	16	16
Viet Nam	16	20	4.1	3.4	21	50
Bangladesh	6	18	8.0	7.9	30	51
Thailand	13	18	4.6	3.2	69	69
Lao People's Dem. Rep.	8	15	4.8	5.6	48	0
Papua New Guinea	5	14	8.4	4.9	25	0
Nepal	4	7	5.1	5.6	27	..
Bhutan	3	4	3.7	5.2	..	..
Afghanistan	9	..	6.0	..	17	17

.. = not available.

Source: World Bank, *World Development Report 1987* (New York: Oxford University Press, 1987).

urbanized and the Republic of Korea about 65 per cent. Hong Kong and Singapore are, of course, almost entirely urbanized, while Bangladesh is only 18 per cent urbanized. Generally, the data suggest that countries with a per capita income of about $500 (in 1985 prices) are roughly 25 per cent urbanized, those with per capita incomes of over $1,000 are roughly 40 per cent urbanized, and those where per capita income exceeds $2,000 the rate of urbanization is more than 50 per cent.

Unlike the increases in the variables discussed above, increases in the degree of urbanization in a country generally tend to reduce the quality of life. Urbanization also increases investment requirements because urban populations must be provided with facilities and services such as drinking water, transportation, electricity and housing. Cities, however, provide jobs and markets for hinterlands. While urbanization appears to be an inevitable part of the development process, it is possible to reduce the rate at which it occurs or to ameliorate its adverse effects.

Contributions to Growth by Major Sectors

In most Asian and Pacific developing countries, the bulk of the population derives its income from agriculture. This is borne out by the fact that in most of the developing countries in the region less than 20 per cent of the labor force is in the industrial sector (see Table 9). Further, where agriculture's share in the total labor force has declined rapidly (as in Hong Kong, Malaysia, Republic of Korea and Singapore), it has been the services sector rather than the industrial sector that has absorbed the bulk of the labor released from the agriculture sector. Thus, it appears that the industrial sector does not absorb large masses of labor until per capita income reaches the $2,000 level (in 1985 prices). This is a welcome development, because the investment required per unit of gross

Table 9: **Distribution of Labor Force by Sector in Selected Countries**
(Percentages)

	Percentage of Labor Force in					
	Agriculture		Industry		Services	
Country	1965	1985	1965	1980	1965	1980
Nepal	94	93	2	1	4	7
Bhutan	95	92	2	3	4	5
Lao People's Dem. Rep.	81	76	5	7	15	17
Papua New Guinea	87	76	6	10	7	14
Bangladesh	84	75	5	6	11	19
China, People's Rep. of	81	74	8	14	11	12
Thailand	82	71	5	10	13	19
India	73	70	12	13	15	17
Viet Nam	79	68	6	12	15	20
Indonesia	71	57	9	13	21	30
Pakistan	60	55	18	16	22	30
Burma	64	53	14	19	23	28
Sri Lanka	56	53	14	14	30	33
Philippines	58	52	16	16	26	33
Malaysia	59	42	13	19	29	39
Korea, Rep. of	55	36	15	27	30	37
Hong Kong	6	2	53	51	41	47
Singapore	6	2	27	38	68	61
Afghanistan	69	..	11	..	20	..
Cambodia	80	..	4	..	16	..

.. = not available.

Source: World Bank, *World Development Report 1987* (New York: Oxford University Press, 1987).

domestic product (GDP) generated and per job created is considerably less in the services sector than in the industrial sector.

Table 10 shows the distribution of GDP by sector and the changes from 1965 to 1985. A comparison with Table 9 shows that agriculture's share in GDP has fallen more than agriculture's share in the total labor force in most countries. It therefore seems that the per capita income of workers employed in agriculture has declined relative to workers employed in other sectors. Thus, labor employed in agriculture has been impoverished in relative terms.

In most countries shown in Tables 9 and 10, the share of the industrial sector in the total labor force is much lower than its share in GDP. This suggests a higher average income per worker in industry than in agriculture. The share of the services sector in total GDP is also consistently higher than that of the services sector in the labor force, suggesting a higher level of income per worker in the services sector than for the country on average. This is borne out by the fact that during 1965-1985, the services sector expanded rapidly (at a rate of 6-7 per cent per annum) in all of the rapidly growing economies in the region.

Table 10: **Distribution of Gross Domestic Product by Sector in Selected Countries**
(Percentages)

	Distribution of Gross Domestic Product							
	Agriculture		**Industry**		**Manufacturing**		**Services**	
Country	**1965**	**1985**	**1965**	**1985**	**1965**	**1985**	**1965**	**1985**
Nepal	65	62	11	12	3	5	23	26
Bangladesh	53	50	11	14	5	8	36	36
Bhutan	..	50	..	18	..	4	..	32
Burma	35	48	13	13	9	10	52	39
China, People's Rep. of	39	33	38	47	30	37	23	20
India	47	31	22	27	15	17	31	41
Sri Lanka	28	27	21	26	17	15	51	46
Philippines	26	27	28	32	20	25	46	41
Pakistan	40	25	20	28	14	20	40	47
Indonesia	56	24	13	36	8	14	31	41
Thailand	35	17	23	30	14	20	42	53
Korea, Rep. of	39	14	26	41	19	28	35	45
Hong Kong	2	1	40	31	24	24	58	68
Singapore	3	1	24	37	15	24	73	62
Malaysia	28	..	25	..	9	..	47	..

.. = not available.

Source: World Bank, *World Development Report 1987* (New York: Oxford University Press, 1987).

Productivity of Investment

A commonly held view is that the rate of growth of an economy is a function of the ratio of investment to GDP and the productivity of investment undertaken. By extension of this logic, a comparison of the investment/GDP ratio with the GDP growth rate gives some indication of the productivity of investment. Both the rate of growth of GDP and the investment/GDP ratio varied widely among the developing countries in the region during 1965-1980 and 1980-1985 (see Table 11). For example, Pakistan achieved an annual GDP growth rate of 5.2 per cent during 1965-1980 with an investment/GDP ratio of only 21 per cent, whereas India required an investment/GDP ratio of 18 per cent to achieve its much lower annual GDP growth rate of 3.8 per cent. It could thus be concluded that, other things being equal, the productivity of investment in Pakistan was greater than in India during the period.

If Pakistan's GDP growth rate (5.2 per cent) is divided by its investment/GDP ratio (21 per cent), the result (0.248) shows an index of the productivity of investment (productivity index) during the period 1965-1980. India's lower productivity of investment during the period is apparent from its productivity index (0.211).

The listing of countries in descending order of productivity during the 1965-1980 and 1980-1985 periods shows some interesting features (see Table 12). First, Indonesia's relatively high value (0.988) for the 1965-1980 period was no doubt due to the fact that GDP growth was propelled by oil revenues which were, in turn, fed by foreign direct investment. This is apparent from the sharp fall in Indonesia's productivity of investment during 1980-1985. Second, the decline in the productivity index of Hong Kong, Republic of Korea and Singapore between the two periods reflects an increasing degree of maturation of their economies. This is true to a lesser degree of Malaysia and Thailand. Third, the fall in the index of the Philippines and Sri Lanka probably reflects internal political difficulties. Fourth, the increases in productivity registered by Burma and Pakistan are likely the result of policies geared to economic efficiency. The relatively constant values for India and the People's Republic of China reflect the fact that policy had a relatively neutral effect in both countries in regard to productivity — the People's Republic of China's recent major policy shifts occurring after 1985. Fifth, the decline in the index of Nepal most probably reflects rapid population growth. Finally, the GDP growth rate of 9.8 per cent achieved by the People's Republic of China during the period 1980-1985 was due to massive investment (38 per cent of GDP) instead of an increase in productivity of investment. This is borne out by the fact that the country's productivity index improved only marginally (0.256 to 0.258) between the two periods, and this is also reflected in the rather large increase in the country's ratio of gross domestic saving to GDP over the two periods.

Since by definition, income that is saved cannot be spent on goods and services, the ratio of gross domestic saving to GDP can be used as a measure of

Table 11: **Distribution of Gross Domestic Product by Investment, Savings and Exports in Selected Countries**
(Percentages)

Country	Average Annual Growth Rate of GDP (%)		Gross Domestic Investment as % of GDP		Gross Domestic Savings as % of GDP		Exports of Goods and Services as % of GDP	
	1965-1980	**1980-1985**	**1965**	**1985**	**1965**	**1985**	**1965**	**1985**
Singapore	10.2	6.5	22	43	10	42	123	..
Korea, Rep. of	9.5	7.9	15	30	7	31	9	36
Hong Kong	8.5	5.9	36	21	29	27	71	106
Indonesia	7.9	3.5	8	30	8	32	5	23
Thailand	7.4	5.1	20	23	21	21	18	27
Malaysia	7.3	5.5	20	28	24	33	42	55
China, People's Rep. of	6.4	9.8	25	38	25	34	4	11
Philippines	5.9	-0.5	21	16	15	13	17	22
Pakistan	5.2	6.0	21	17	13	5	8	11
Papua New Guinea	4.1	1.3	22	22	2	13	18	44
Sri Lanka	4.0	5.1	12	25	13	13	38	26
Burma	3.9	5.5	19	17	13	14	14	6
India	3.8	5.2	18	25	14	21	4	6
Bangladesh	2.4	3.6	11	13	8	3	10	6
Nepal	2.3	3.4	6	21	(.)	12	8	13

.. = not available.
(.) = less than half the unit shown.

Source: World Bank, *World Development Report 1987* (New York: Oxford University Press, 1987).

It follows that these countries should in general avoid investing in sectors having high incremental capital-output ratios and should instead concentrate on sectors with low ratios, e.g., forestry, fisheries, agriculture, construction, small-scale and medium-scale industries, and services. In countries such as India, which have adopted the reverse strategy, a large portion of total investment is consumed by a few sectors, leaving little investment in sectors that produce goods in which the country has comparative advantage. This results in the inefficient use of capital, and worse, in a higher rate of unemployment than would occur if investment were concentrated in sectors with low incremental capital-output ratios in which the country has comparative advantage. High unemployment rates, in turn, result in low per capita income, depressed domestic demand and low GDP growth rate. Finally, the low level of per capita income results in poor quality of life.

The low quality of life that is the result of inefficient investment is exemplified by India's present economic situation. After 40 years of independence, more than 60 per cent of adults in India and 80 per cent of women are still illiterate, and the infant mortality and child death rates are high by regional or world standards. It is therefore not surprising that the country's family planning program has met with little success. Most of the villages still lack all-weather road links, and even minimum standard health facilities are not available. Morbidity and death rates are high and life expectancy short compared with average world and regional levels. The relationship between these results and the development strategy pursued by the country is obvious.If the emphasis had been on human resource development and sectors with low incremental capital-output ratios with strong employment-generating effects, the rate of growth of GDP would have been higher, the population growth rate and unemployment rate lower, and the poor would have had more purchasing power. Major strides might also have been made in reducing absolute poverty and hunger.

While it is true that the output forgone due to inefficient policies is lost forever, it is heartening to see that the development strategy adopted by India and some other countries in South Asia is undergoing a change. More resources are being allocated for education, health and human resource development and for investment in agriculture, forestry, fisheries, construction and other sectors with strong employment-generating effects. The services sector is also growing rapidly, and in industry there is a shift towards relatively labor-intensive and knowledge-intensive activities and away from capital-intensive and energy-intensive activities.

It is often argued that the availability of natural resources is an asset for a developing country. This logic is reinforced by the high incomes of oil-rich Middle East countries. It must be remembered, however, that their populations tend to be small, and that exploitation of natural resources is a capital-intensive activity which is often also energy intensive. This is apparent from the fact that the incremental capital-output ratio of the mining and quarrying sector in India is second only to the electricity sector in magnitude and is high compared with that of the economy as a whole.

It should therefore not be surprising that most of the rapidly developing economies (e.g., Republic of Korea and Thailand) have poor natural resources while India, which has invested massive resources in its mineral industries, has a far lower per capita income than these countries. Thus, other things being equal, heavy investment in the exploitation and processing of minerals, even when a country is well-endowed with such resources, is likely to raise the overall incremental capital-output ratio and lower the productivity of investment, thereby lowering the rates of growth of income and employment.

A number of the developing countries in the region increased their exports as a percentage of GDP during the period 1965-1985 (see Table 16). Notable increases occurred in the People's Republic of China, Hong Kong, Indonesia, Republic of Korea, Malaysia, Singapore and Thailand. The South Asian countries, on the other hand, have lagged behind these countries. For example, in 1985 India's exports accounted for only 6 per cent of GDP. Burma's ratio of

Table 16: **Export Performance of Selected Countries, 1965-1985**
(Percentages)

Country	**Average Annual Growth Rate of Per Capita Income**	**Exports of Goods and Services as Percentage of GDP**	
	(1965-1985)	**1965**	**1985**
Singapore	7.6	123	..
Korea, Rep. of	6.6	9	36
Hong Kong	6.1	71	106
China, People's Rep. of	4.8	4	11
Indonesia	4.8	5	23
Malaysia	4.4	42	55
Thailand	4.0	18	27
Pakistan	2.6	8	11
Burma	2.4	14	6
Philippines	2.3	17	22
India	1.7	4	6
Bangladesh	0.4	12	12
Papua New Guinea	0.4	18	44
Nepal	0.1	5	13

.. = not available.

Source: World Bank, *World Development Report 1987* (New York: Oxford University Press, 1987).

exports to GDP even fell in absolute terms over the period. Most of the countries with high export/GDP ratios have also achieved high rates of growth of per capita income. For example, the average rate of growth of per capita income of Indonesia for the period 1965-1985 was 4.8 per cent, People's Republic of China 4.8 per cent, Malaysia 4.4 per cent, Republic of Korea 6.6 per cent, Singapore 7.6 per cent and Thailand 4 per cent.

It should also be noted that the rapidly growing economies of the region include both large and small countries and countries having very different political persuasions. The People's Republic of China and Indonesia have the same rate of growth of per capita income, but they have different political ideologies and systems. Further, GDP growth rates appear to be unrelated to population size as formerly thought. The People's Republic of China and Indonesia have large populations, Hong Kong and Singapore extremely small ones, and the Republic of Korea and Thailand have populations of intermediate size. Thus, the argument that meaningful comparisons cannot be made between large and small countries is no longer valid. It is clear, however, that closed economies are less efficient than economies for which exports and imports form a large percentage of GDP.

While the external environment is one factor in determining the growth rate of GDP, for most developing countries it is not of such great importance as often assumed. Further, given the international environment, some developing countries tend to grow faster than others due to the adoption of more favorable policies. In recent years, the People's Republic of China has been able to expand its exports dramatically as a percentage of GDP, while India's ratio of exports to GDP has reached only 6 per cent.

This is not to deny that external environment matters. Protectionism clearly hurts developed countries as much as developing countries. The markets of the Asian and Pacific developing countries are expanding rapidly due to their relatively high economic growth rates. These countries have the greatest potential for absorbing exports from developed countries. It would therefore be in the best interest of the developed countries to assist the Asian and Pacific developing countries in their development efforts.The developed countries, on the other hand, continue to have domestic saving rates that are considerably higher than the levels required to maintain their real per capita incomes at current levels. Since these savings must find a productive outlet, the rapidly growing Asian and Pacific developing economies clearly offer the best opportunities.

P 4624

Development Experience in South Asia

Sukhamoy Chakravarty*

In recent years, there has been a great deal of discussion on the future role of development planning. In the late 1960s and 1970s, a number of eminent economists extended their support to the cause of development planning on the ground of "market failure". State intervention was justified on the basis of the superior coordinating ability of the state. Of late, however, the interventionist policies have come under strong criticism. The critics of state intervention would seem to suggest, with varying degrees of emphasis, that the "market" left to itself would bring about a higher rate of development without any noticeable deterioration in the realm of equity. Their arguments are mostly based on the rapid growth recorded by the so-called Newly Industrializing Countries (NICs), particularly the East Asian NICs which have been often cited as examples of market-directed economies. It has been argued that these countries could bring about major structural transformation in a fairly short period by "keeping prices right". But we are also aware of the role that state initiatives played in the development process of these countries. Apart from the cultural factors and the various conjunctural factors in both the domestic and external sectors of these economies, there were state interventions at strategic points encompassing monetary, fiscal, trade and industrialization policies with a view to formulating and implementing a coherent development strategy.

What, then, provided the stimulus to the rapid growth of the NICs? Was it by keeping prices right or by keeping policies right? The answer is far more complex than some would think. While the East Asian experience is outside the scope of this article, a close look shows a much greater degree of state intervention along with the role played by special initial conditions which in the nature of the case cannot be easily generalized.

State initiatives have also played a crucial role in the development process of the South Asian countries. These countries have pursued over the last three decades an industrial development strategy with greater reliance on import-substitution in contrast to the NICs which have followed an "outward-oriented" development strategy, at least since the mid-1960s. It is alleged that the "inward-looking" strategy of the South Asian countries, especially that of India, has been mainly responsible for the slow process of industrialization in these countries. One can also notice in much of the contemporary criticism of the development strategies of these countries that there is a pronounced emphasis on the inefficiency of resource use. While inefficiency undoubtedly exists, data do not suggest that inefficiency in the use of resources is the only reason for their slow process of industrialization.

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I feel that much of the problem in India, in particular, has arisen because of the tension between attempts to expand the resource base and the need to ensure the efficiency of resource use. For example, India achieved a fairly high level of domestic saving rate by the late 1970s. But this could not be translated into a corresponding acceleration of growth. It is quite possible that dictates of efficiency and growth do not always coincide just as between equity and growth. These are issues where appropriate institutional motive forces and changes are called for and incorporated as part of the development strategy. This, in turn, depends on the societal response in particular countries.

We cannot, therefore, evaluate or even conceptualize the development process only in terms of the "market failure" paradigm, or a simple "stages of growth" approach or outward-oriented and inward-looking strategies of industrialization. We must look at the total scenario of the development experience, taking into consideration the structural, cultural and sociopolitical constraints operating in the various countries. In the light of these observations, I now turn to analyze the development experience of the South Asian countries.

In my analysis, I shall be concerned with four South Asian countries, viz., Bangladesh, India, Pakistan and Sri Lanka. The main reason for this choice is that these countries are reasonably homogenous in terms of historical experience. Being primarily agricultural economies, they have laid emphasis on agricultural development. They chose on balance and for the greater part of the last four decades an import-substitution strategy, partly because of their previous colonial status associated with their specialization in primary commodities and agro-based industries. They have, by and large, followed a mixed economy pattern of development since the private sector did not have the capacity, at least in the initial stages, to invest in basic industries and infrastructure. Further, it was felt that the development of a strong public sector would provide the state the commanding heights of the economy and thereby prevent concentrations of wealth and economic power in the private sector. These countries have also relied on the assumption that state interventions in different economic sectors would play a crucial role in reducing poverty and making the distribution of income less unequal.

It is the similarities in the perceptions of developmental problems that have made these countries follow more or less similar development strategies. There is, however, a basic and most important difference. India is a big-sized country with a large growing population while Bangladesh, Pakistan and, in particular, Sri Lanka are relatively small-sized countries. Difference in size has implications in terms of the size of the domestic market, the pattern of industrialization and the scope for structural transformation. Even then, given the rapid growth in population in Bangladesh, India and Pakistan, the nature of structural and resource constraints, especially in per capita terms, remains more or less similar.

Structural Changes

Studies have shown that the process of economic development brings about a typical pattern of structural changes.[1] According to this pattern, the share of value-added of manufacturing in gross domestic product (GDP) rises fast in the initial stages of the development process while that of services increases in the subsequent stages. On the other hand, the share of agriculture in GDP shows a secular decline. In addition, the various studies also show that structural transformation is successful when changes in the structure of output are accompanied by corresponding changes in the structure of the labor force.

The structural changes in GDP and the labor force in the South Asian countries over the last two decades are shown in Table 1. There have been significant changes in the structure of output in respect of both India and Pakistan. Between 1965 and 1985, the share of agriculture in GDP in the Indian economy declined from 47 per cent to 31 per cent while that of industry increased from 22 per cent to 27 per cent and that of services rose sharply from 31 per cent to 41 per cent. Similarly, in Pakistan, the share of agriculture in GDP declined from 40 per cent to 25 per cent between 1965 and 1985 while that of industry increased from 20 per cent to 28 per cent and of services from 40 per cent to 47 per cent. On the other hand, the process of structural change in output has been quite slow in Bangladesh and Sri Lanka during the last two decades.

However, there has not been any significant change in the structure of employment in the South Asian countries. There are several reasons for this situation and it is important that we have a better understanding of the factors.

The agriculture sector in the four South Asian countries is characterized by several constraints. Important among them are land resource constraints, an expanding labor force in the rural sector and scarcity of capital. Given these relative factor endowments, growth in agricultural productivity is dependent upon the adoption of labor-intensive and land-augmenting technologies. While the new agricultural technology had definitely contributed to the growth in foodgrain production in South Asian countries, it has not led to a pattern of highly labor-intensive agricultural development as in the case of some East Asian

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[1] See, for example, Colin Clark, *The Conditions of Economic Progress* (London: Macmillan, 1957); Simon Kuznets, "Quantitative Aspects of the Economic Growth of Nations: Industrial Distribution of National Product and Labour Force", *Economic Development and Cultural Change*, Supplement (July 1957); and Hollis B. Chenery and Moises Syrquin, *Patterns of Development, 1950-1970* (New York: Oxford University Press, 1975).

Table 1: **Structure of Gross Domestic Product and Employment in South Asian Countries**
(Percentages)

Country and Sector	Gross Domestic Product		Employment	
	1965	1985	1965	1980
Bangladesh				
Agriculture	53	50	84	75
Industry	11	14	5	6
Services	36	36	11	19
India				
Agriculture	47	31	73	70
Industry	22	27	12	13
Services	31	41	15	17
Pakistan				
Agriculture	40	25	60	55
Industry	20	28	18	16
Services	40	47	22	30
Sri Lanka				
Agriculture	28	27	56	53
Industry	21	26	14	14
Services	51	46	30	33

Source: World Bank, *World Development Report 1987* (New York: Oxford University Press, 1987).

countries. This is not to deny the labor absorption capacity of the new technology in the context of the South Asian countries. However, it stresses the fact that given the agrarian structure and the economic and demographic changes taking place simultaneously in these countries, the impact of government policies may have eroded to some extent the labor absorption capacity of the new technology.

In the initial stages of the seed-fertilizer technology, there was an increase in labor use due to the adoption of improved agricultural practices such as row transplantation, better water management, weed control and use of pesticides. Cropping intensities increased due to large investments in new irrigation projects. Private investment in tube-well irrigation was also stimulated as the returns were quite high. But the increased cropping intensities did not always result in increased labor use. Timeliness became important and there was a tendency in some places for wages to increase because of greater labor demand arising from the overlapping of operations of two crops, and this led to increased mechanization. Thus, while cropping intensities provided the scope for increased labor inputs per unit of land in operations such as nursery, transplantation and weeding, these were more or less offset by the reduction in labor demand resulting from the introduction of equipment such as tractors and harvester combines.

The policies of governments and donor agencies have also created factor price distortions in South Asian countries which facilitated the spread of mechanization. Such policies included aid-tying from bilateral and multilateral sources, cheap credit to rich farmers and subsidized diesel fuel. In the early 1970s, the World Bank provided loans to several South Asian countries for the import of tractors. Thus, for example, the imports of tractors in Pakistan had increased from 3,879 in 1970/71 to 24,746 in 1984/85.[2] The overall impact of such policies was that the South Asian countries were switching to mechanization at a *much earlier stage* of the development process than the East Asian countries.

This does not mean, however, that factor price distortions have been solely responsible for the spread of mechanization. Perhaps, the more important reason is the agrarian structure. It is the large farmers who have generally adopted mechanization, irrespective of the level of wages and the availability of labor, partly with a view to avoid problems of labor management and supervision. Moreover, the large farmers have accumulated surpluses over a period of time and for them, the use of tractors has become synonymous with the adoption of new technology, apart from being a status symbol. Further, the large farmers use tractors not only for tillage but also for haulage and transport of inputs and produce between their farms and the markets. They also hire out the tractors to other farmers for field preparation. Thus, given the availability of increased owned resources and cheap credit through financial institutions, the private rate of return on mechanized farming to the large farmers is quite high and this accelerated the spread of mechanization in the South Asian countries during the 1970s.

There is a considerable amount of empirical work on the impact of mechanization on production. But it is evident that the agrarian structure, coupled with the easy availability of cheap capital, has resulted in mechanization to a greater extent than perhaps warranted in the context of surplus labor in the agriculture sector in some South Asian countries. Perhaps the process has been further helped by considerations based on "moral hazard" and relative cost of monitoring and supervision which lead to greater mechanization over and above what would be suggested by neoclassical price theory.

On the whole, it appears that a long-term solution to the problem of increasing employment in the agriculture sector in South Asia lies in adopting simultaneously several strategies. First, agrarian reforms can lead to smaller farm sizes and this would facilitate increased labor absorption. Second, investments in land infrastructure, particularly in irrigation, would lead to increased cropping intensities and facilitate labor absorption. Third, since some part of agricultural production would still continue to depend on rainfall, vigorous efforts are needed to improve the productivity of dryland farming and animal husbandry activities. Fourth, investments in rural infrastructure and social overhead capital would provide more scope for productive off-farm employment within the rural sector and thereby enable the shifting of surplus labor from the agriculture sector.

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[2] Economic Adviser's Wing, Finance Division, Government of Pakistan, *Pakistan: Basic Facts, 1985-86* (Islamabad, December 1986), p. 41.

In theory, at least, a large population in the agriculture sector should promote the growth of industrialization by making available the supply of labor at low wage rates. But institutional rigidities that affect the cost of labor and the slope of labor demand curves are the crucial determinants of the capacity to absorb growing labor into productive employment. However, as these factors are shaped by a variety of influences stemming from the pattern of technology adopted as well as the industrial development strategy, no simple conclusion can be drawn of a Lewisian kind.[3] The turning point that Lewis talked about may be indefinitely postponed, even when the per capita GDP growth rate is positive. The accentuation of dualism in the above form leads to large differences in the productivity levels between the agriculture and industrial sectors and also to relative stagnation in productivity in the agriculture sector. To illustrate this point, Table 2 shows the trends in labor productivity in Pakistan in the different sectors.

Table 2: **Trends in Labor Productivity in Pakistan**
(Rupees)

Sector	**1969/70**	**1979/80**	**1984/85**
Agriculture	1,242	1,245	1,252
Mining and Manufacturing	1,933	2,472	3,859
Construction	1,945	2,239	2,494
Electricity and Gas	8,770	7,707	6,275
Transport	2,413	3,078	3,912
Trade	2,539	2,624	3,021
Total	1,821	2,113	2,514

Note: The estimates are at constant factor cost of 1959/60.

Source: Economic Adviser's Wing, Finance Division, Government of Pakistan, *Pakistan: Basic Facts, 1985-86* (Islamabad, December 1986).

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[3] W. Arthur Lewis, " Economic Development with Unlimited Supplies of Labor", *The Manchester School*, vol. 22 (May 1954), pp. 139-191.

It can be seen from Table 2 that labor productivity in the agriculture sector had been almost stagnating between 1969/70 and 1984/85 while that in the mining and manufacturing sector had almost doubled during the same period. There was a significant improvement in productivity in all other sectors except in the "electricity and gas" sector where productivity actually declined by about 28 per cent.

The trends in relative sectoral productivity (i.e., ratio of share of sectoral output to share of sectoral labor force) levels can be analyzed for making intertemporal and intercountry comparisons about the direction of changes in productivity levels. The trends in relative sectoral productivity levels in the South Asian countries and in the Republic of Korea are given in Table 3. It may be seen that the ratio of relative productivity in industry to that in agriculture shows a slight decline for India between 1960 and 1980 whereas it increased in Bangladesh, Pakistan and Sri Lanka during the same period. It can be inferred therefore that structural transformation has just begun in India while there is no sign as yet of such a process in the three other South Asian countries. The sharp decline in the relative productivity in agriculture in the South Asian countries reflects the growing incidence of labor redundancy in this sector. In contrast, there has been a substantial decline in the ratio of relative productivity in industry to that

Table 3: **Trends in Relative Sectoral Productivity in Selected Countries, 1960-1980**

	Agriculture			**Industry**		
Country	**1960**	**1970**	**1980**	**1960**	**1970**	**1980**
Bangladesh	0.76	0.72	0.62	2.33 (3.1)	2.32 (3.2)	3.25 (5.2)
India	0.65	0.58	0.59	1.93 (3.0)	2.22 (3.8)	1.62 (2.7)
Pakistan	0.68	0.63	0.58	1.12 (1.6)	1.27 (2.0)	1.39 (2.4)
Sri Lanka	0.62	0.56	0.54	1.90 (3.1)	2.16 (3.9)	2.00 (3.7)
Republic of Korea	0.46	0.46	0.41	2.39 (5.2)	1.57 (3.4)	0.91 (2.2)

Notes: Relative sectoral productivity is measured as the ratio of the share of sectoral output to the share of the sectoral labor force.

Figures in parenthesis are ratios of relative productivity in industry to that in agriculture.

Source: Economic and Social Commission for Asia and the Pacific, *Economic and Social Survey of Asia and the Pacific, 1982* (Bangkok).

in agriculture in the Republic of Korea which indicates its success in achieving structural transformation. This analysis highlights the structural constraints operating in South Asian countries which have been accentuated further by the rapid growth in population in these countries during the 1960s and 1970s.

A substantial part of the decline in the share of the agriculture sector in GDP in both India and Pakistan has been compensated by the increase in the share of the services sector which now accounts for 41 per cent in India and 46 per cent in Pakistan. More important, there has been a rapid growth in public administration and defense services whose share in GDP increased from about 6.2 per cent in 1959/60 to about 10.2 per cent in 1985/86 in Pakistan and from 3 per cent to 9.6 per cent between 1960/61 and 1985/86 in India.[4] In my opinion, this kind of growth does not mean structural change in the true sense nor can this kind of growth be sustained in the long run. The South Asian countries should lay more emphasis on the expansion of infrastructural services such as transport, communication, banking and trade to achieve real structural transformation. This would facilitate faster growth of both agriculture and industry in these countries. We now turn to review the development experience of the four South Asian countries.

Agricultural Growth

Bangladesh is characterized by slow economic growth and rapid population growth over the past two decades. Between 1965 and 1980, GDP increased at an annual rate of 2.4 per cent while population increased at an annual rate of 2.7 per cent. However, there was some improvement in the period 1980-1985 when the GDP growth rate was 3.6 per cent and the population growth marginally declined to 2.6 per cent. As a result, the growth rate in per capita gross national product (GNP) has been positive, although only a meager 0.4 per cent between 1965 and 1985.[5]

Bangladesh is mainly an agricultural country. There is a potential for achieving a high level of growth in agricultural production. Water resources are abundant, but there has been only limited development of these resources. Nearly 60 per cent of the cultivated land is left fallow during the dry season from November to April. On the other hand, agricultural production — and with it the entire economy — is disrupted by the recurrence of floods and cyclonic storms. Water control is required during the monsoon season while irrigation is needed during the dry season. Further, the soil fertility is quite high to permit year-round multiple cropping. So far, adequate consideration has not been given to these issues.

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[4] Economic Adviser's Wing, Finance Division, Government of Pakistan, *op. cit.;* and Department of Statistics, Ministry of Planning, Government of India, *National Accounts Statistics* (New Delhi, various issues).

[5] The data used in this discussion are mostly from World Bank, *World Development Report 1987* (New York: Oxford University Press, 1987) unless otherwise indicated.

There are several constraints on the agriculture sector. First, landholding is highly fragmented. According to the Land Occupation Survey conducted in 1977, about 50 per cent of the holdings are of less than one acre. At the same time, about 52 per cent of the land is owned by about 11 per cent of the better-off households.[6] The incidence of landlessness is quite high. Second, as a result of the highly fragmented holdings, intensive farming is not pursued either by small or large farmers. The largest landowners are those who enjoy political support and, therefore, agrarian reforms are delayed. Third, next to foodgrains, the economy relies heavily on jute production. Raw jute and jute goods account for nearly 65 per cent of the country's total exports. The cyclical instabilities in the international jute market in terms of both supply and price cause serious fluctuations in the economy. While the government is financing buffer stock operations, the support prices have been abolished and the farmers are, therefore, left to the mercy of market forces. Apart from competition from synthetics, Bangladesh jute may also face competition from the increasing output of kenaf, a similar fiber grown in Thailand. Bangladesh has, therefore, to formulate a long-term development strategy for the jute sector.

Foodgrain output in Bangladesh has been increasing at a much slower pace than the growth in population. It was only during 1980-1985 that agricultural production recorded a growth rate of 3.9 per cent compared with the population growth of 2.6 per cent. Foodgrain production is greatly influenced by weather. Thus, the problem of food insecurity persists, which has made Bangladesh too dependent on food aid and cereal imports. The first and foremost task of agricultural development is, therefore, to evolve a suitable strategy to increase foodgrain production especially because of the projected rate of growth of population of 2.3 per cent over the period 1985-2000.

In India the strategy of agricultural development has gone through different phases over the past three decades. There was an extensive phase of agricultural growth up to the mid-1960s when expansion of cultivated land contributed more to the growth in agricultural production. Between 1949/50 and 1964/65, agricultural production recorded an annual growth rate of about 3.1 per cent, the growth in area was about 1.6 per cent while that in yield was slightly lower at 1.3 per cent.[7] During this phase, the yield increases were mainly obtained through the expansion of irrigation facilities and also a marginal increase in cropping intensity. The ratio of net irrigation area to net sown area increased from 17.6 per cent in 1950/51 to 19.3 per cent in 1964/65, and the cropping intensity also rose from 1.11 to 1.15 during the same period. The second phase of agricultural growth in India was initiated in 1967/68 with the introduction of high-yielding varieties of wheat followed by rice and maize. Between 1967/68 and 1984/85 agricultural production recorded a growth rate of about 2.7 per cent. While the growth in cultivated area was only 0.4 per cent, the growth in yield was as high as 2 per cent. It is also relevant to note that during this period the production of cereals recorded an annual growth rate of about 3 per cent. The maximum contribution to this growth came from growth in cereal yields which was 2.2 per cent. The growth in area under cereals was only a meager 0.3 per cent. The expansion of area under high-yielding varieties of cereals was facilitated by the rapid growth in irrigation facilities and growth in the use of fertilizers and pesticides. Foodgrain production increased from 55 million tons in 1949/50 to around 150 million tons by 1984/85, an annual growth of 2.9 per cent. The growth in foodgrain production in India was higher than the average growth in population of 2.2 per cent over the same period.

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[6] Bangladesh Bureau of Statistics, *The 1977 Land Occupancy Survey* (Dhaka).

[7] The data used in this discussion are drawn from Ministry of Agriculture, Government of India, *Agricultural Statistics at a Glance* (New Delhi, May 1987).

Thus, the major achievement of the agricultural development strategy has been to achieve a very considerable measure of self-sufficiency in food requirements in the face of a rapidly growing population and land resource constraints. This has been made possible by the various elements of the strategy which included substantial public investment in irrigation, agricultural research and other infrastructure apart from suitable public policies such as price support, subsidized inputs, credit and extension services. It is noteworthy that private initiatives played an important role by way of investment in groundwater resources and in the increased use of fertilizers. Moreover, public policies relating to procurement and buffer stock operations have been actively pursued which provided farmers with an assured market outside private trade. On the other hand, the system of public distribution of foodgrains has provided at least partial food security to the poorer sections of the population. As a result of these policies, India is in far better position now than in the mid-1960s to face problems of short-term food shortages arising from fluctuations in grain output caused by adverse weather.

There are, however, several deficiencies in India's agricultural development strategy which need to be remedied. First, the growth in foodgrain production has been so far restricted to certain regions in the country and the consequent benefits in income have, therefore, been limited to the population living in these regions. Efforts are now being made to spread the new agricultural technology to other regions. Second, the expansion of irrigation facilities in terms of both surface and ground water resources has been uneven among different regions. Since this is partly due to natural resource constraints, the agricultural development strategy has to pay greater attention to improvements in dry farming as well as non-farm agricultural activities such as animal husbandry. Third, the success of the new agricultural technology has been limited to cereal crops. There has been no breakthrough in research for evolving high-yielding varieties of other crops, especially pulses and oilseeds. This has created imbalances in the supply and demand for these products. The situation has become quite serious in respect of oilseeds for producing edible oils. Fourth, cyclical instabilities in the production of important commercial crops such as cotton, jute and sugarcane are affecting farmers as well as the capacity utilization of related agro-based industries. Public policies relating to prices, procurement and trade for these commodities have not so far been effective to overcome instabilities in their production. These major production issues need to be addressed through appropriate policies.

Pakistan, like India, has gone through different phases in agricultural growth. There has been a major change in the sources of growth in output since 1970 compared with the 1960s. Growth in production in the latter half of the 1960s was achieved by technological progress in the form of high-yielding varieties, fertilizers and tubewell irrigation, all of which improved yields. It is estimated that as much as 74 per cent of the increase in output in 1965-1970 was due to the higher yields compared with only 7 per cent from the expansion of cultivated area.[8]

In contrast, during the 1970s and early 1980s, growth in agricultural production has mainly come from increased cropped area made possible by the expansion of irrigation facilities. In fact, growth in production was concentrated in the years from 1978 to 1982 and there has not been any significant improvement in yield. Production of wheat recorded an annual growth rate of 3.1 per cent during the 1950s and 1960s, but it improved only marginally to 3.2 per cent during the 1970s and early 1980s. Growth in rice production declined to 2.1 per cent in the 1970s compared with a growth of 5.6 per cent in the 1950s and 1960s.[9]

The rate of population growth has been steadily rising from 1.8 per cent in the 1950s to 2.8 per cent in the 1960s, and 3.1 per cent in the 1970s and early 1980s. As a result, in spite of growth in cereal production, the per capita availability of cereals has shown only marginal improvement from 139 kilograms (kg) per annum in 1949/50 to 147 kg in 1979/80. The per capita availability of pulses and milk declined steadily over the last three decades, but this has been compensated by increases in other items such as meat, eggs and sugar.

There have been several weaknesses in the agricultural development strategy of Pakistan. Growth in agricultural output has not been sustained in recent years because the new technology has had only a marginal impact on rice production. Moreover, the irrigation infrastructure is badly in need of rehabilitation. The canals and water course systems have been deteriorating because of a lack of maintenance, causing problems of seepage, salinity and a decline in yields. Public policies place greater reliance on price incentives, fertilizer and other input subsidies for achieving growth in agricultural production. Public investment in agricultural research and water resources has not been given adequate importance. In fact, during the Fifth Plan period (1978-1983), expenditure on agriculture accounted for only 10 per cent of the total development expenditure and nearly 60 per cent of this expenditure was for fertilizer subsidies.

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[8] G.H. Gotsch, " Green Revolution and Future Developments in Pakistan's Agriculture", in *Rural Development in Bangladesh and Pakistan*, ed. Robert D. Stevens, Hamza Alavi and Peter J. Bertocci (Honolulu: University of Hawaii Press, 1976), p. 360.

[9] The data used in this discussion are based on Economic Adviser's Wing, Finance Division, Government of Pakistan, *op. cit.*

During the Sixth Plan period (1983-1988), this has been reversed by a substantial reduction in fertilizer subsidies. Pakistan can manage to achieve sustained growth in agricultural production by giving more attention to qualitative improvements in agricultural research and extension services. Further, agrarian reforms are also necessary to achieve a wider use of new technologies by farmers with small landholdings.

Among the South Asian countries, Sri Lanka's growth performance has some characteristics that stand out. Sri Lanka has recorded an annual growth rate of 4 per cent in GDP during 1965-1980 and 5.1 per cent during 1980-1985. On the other hand, population growth which was already low at 1.8 per cent during 1965-1980 further declined to 1.4 per cent in 1980-1985. Consequently, the country achieved a growth rate of 2.9 per cent in per capita GNP which is the highest among South Asian countries. The agriculture sector recorded a growth rate of 2.7 per cent in 1965-1980 which increased to 4 per cent in 1980-1985. However, foodgrain production, especially rice, which recorded an impressive growth during the 1950s and 1960s, suffered severe setbacks during the 1970s, and rice production showed signs of recovery only in the early 1980s. The rapid growth in rice production during the 1950s and 1960s could be attributed to a number of policies pursued for agricultural development. These included allotment of government land, particularly land under irrigation schemes, to landless peasants for rice cultivation; provision of irrigation at a nominal charge; supply of fertilizers at highly subsidized rates; expansion of high-yielding varieties; supply of credit through government-owned banks which were often treated as grants; and procurement of rice at guaranteed purchase prices. It is estimated that these implicit and explicit subsidies together accounted for nearly 25 per cent of the value of rice production at producers' price after excluding the subsidy element in procurement.[10]

The adoption of these policies could be traced to the fact that Sri Lanka has remained a food-deficit economy for several decades. The requirements for domestic consumption has been met through food imports, even though rice production had recorded an annual rate of growth of 6.4 per cent between 1950-1954 and 1960-1964. The performance during 1965-1970 was still more remarkable when rice production increased at an annual rate of 16.3 per cent. As a result, there was a continuous decline in the ratio of imports to total availability from 55 per cent in 1950-1954 to 45 per cent in 1960-1964 and to 33 per cent by 1970.

However, the growth in rice production declined suddenly to less than 3 per cent during the 1970s. Production stagnated for the major part of this period due to factors such as drought, shortage of fertilizers and a sharp decline in the ratio of paddy to fertilizer prices. Paddy yields had earlier increased from 1.9 tons per hectare in 1961-1965 to 2.5 tons in 1969-1971, and this contributed to the spectacular growth in rice production in the latter half of the 1960s. But the yields dropped to 2.3 tons per hectare in 1975-1977. This decline was in spite of the expansion of area planted with high-yielding varieties from a mere 1 per cent in 1968/69 to 67 per cent in 1974/75. Whatever little growth was achieved during the 1970s, it was made possible by the expansion of area under rice cultivation. The sharp fluctuations in rice production in the 1970s made Sri Lanka dependent again on food imports. This created instabilities in the food distribution system. However, rice production staged a recovery in the early 1980s. The growth in production could be partly attributed to the increase in procurement prices. With the steady growth in rice production in recent years, Sri Lanka has moved closer to self-sufficiency in rice.

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[10] The analysis in this discussion on Sri Lanka is based on the data given in James D. Gavan and Indrani Chandrasekhara, *The Impact of Public Foodgrain Distribution on Foodgrain Consumption and Welfare in Sri Lanka*, Research Report 13 (Washington, D.C.: International Food Policy Research Institute, December 1979).

The Sri Lankan economy is dominated by three plantation crops, viz., tea, rubber and coconuts. The plantation sector contributes more than 50 per cent to the country's export earnings apart from providing employment and revenue to the government. The plantation sector has been experiencing a long-term decline in production due to inadequate replanting, low domestic prices, fluctuations in international prices and a lack of investment. The government has recently initiated an investment program to increase productivity in the plantation sector.

The major long-term hope for sustained growth in agricultural production in Sri Lanka, particularly of rice, centers on the Accelerated Mahaweli Programme which envisages the development of power and irrigation along with agricultural development and settlement programs.

Industrial Development

In Bangladesh the industrial sector accounted for 14 per cent of GDP in 1985. The sector has been growing at a rate of 4.7 per cent per year during 1980-1985 compared with 3.8 per cent during 1965-1980. But the growth performance of the manufacturing sector has been only 2 per cent per year during 1980-1985.

Jute processing is the major industry in Bangladesh, contributing about 25 per cent to value-added in the manufacturing sector. Overall growth in the manufacturing sector is, therefore, influenced by the performance of the jute industry. However, since a large part of the industry's production is being exported, the jute industry's growth is subject to fluctuations in the international market.

Bangladesh has carried out some major economic reforms in the industrial sector in recent years. In early 1972 the government had nationalized all the major industries. The poor performance of many of these public enterprises had prompted the government to denationalize some of them and hand them over to the private sector. The industrial policy was accordingly changed in 1982 by limiting the role of the public sector to basic and strategic industries. The new industrial policy encourages foreign investors to invest in export-oriented and technology-intensive and capital-intensive industries by providing liberal incentives. This policy has so far not attracted foreign private investment to any significant extent.

There have been other developments in the industrial sector in recent years. The garments industry has emerged as a large export industry in the last few years. The value of garment exports which was insignificant in 1979/80 accounted for about 15 per cent of the country's total exports in 1984/85. Another development is the proposed modernization program of the steel mill at Chittagong which envisages countertrade arrangements with India, the supply of sponge iron in return for iron ore from India. This program is expected to stimulate industrial growth in the country.

There are, however, certain basic constraints in Bangladesh which need to be removed early for speedy industrialization. Important among these are inadequate infrastructure facilities and a narrow range of manufacturing activities.

India's industrial development strategy emphasized the building up of a capital goods sector to save scarce foreign exchange. It was primarily an "inward-looking" import-substitution strategy of industrial development. This pattern has been dictated by the initial conditions of the country's size, population and natural resources. There has been a continuing debate on India's industrial development strategy. Some have argued that the policy of import substitution has proved to be costly to the economy since the domestic costs of production in many industries were much higher than the ruling prices in international markets. While this may be true for a few industries, it must be recognized that the strategy has helped in the subsequent development of a diversified industrial structure covering a wide spectrum of capital, intermediate and consumer goods industries. This diversification has, of course, been purchased at a cost insofar as proper scale economies have not accrued. But it has given the economy a certain measure of stability in the face of a fluctuating international environment.

It has also been argued that the import-substitution strategy was a mistake based on a wrong assessment of comparative advantage. But the perception of the policymakers in the late 1950s and early 1960s was that India had the potential to develop an efficient capital goods industry since the country was endowed with massive resources of coal, iron ore and other minerals. It was hoped that this would help in the expansion of exports of manufactured goods at the subsequent stages of development. This perception seemed to be logical since India had been exposed to steel-making technology in the 1920s. In fact, the cost of production of Indian steel in the 1960s compared very favorably with international prices. However, during the 1970s, when the steel industry throughout the world achieved reductions in cost per ton of steel primarily through the introduction of energy-saving devices and new technologies, the Indian steel industry lagged behind with outdated technologies of steel production. This has doubtless proved costly to the economy since the late 1970s.

Thus, import substitution per se is not necessarily a wrong strategy, but once the technological capabilities have been acquired, failure to upgrade the technology on a regular basis without any outside technical input generally leads to inefficient production and loss to the economy. Even so, it cannot be denied that the Indian capital goods industries had already reached a certain stage of maturity by the early 1970s which was reflected in the rapid growth in the exports of engineering goods during the 1970s. This was made possible by the industrial development strategy of the 1950s and 1960s with its emphasis on heavy industries.

Industrial production in the organized manufacturing sector in India recorded an annual average rate of growth of 7.1 per cent during 1956-1965 while it declined to 4.7 per cent during 1966-1979.[11] Several arguments have been given for this deceleration in industrial growth in the latter period. One is that it was the availability of easy options of import substitution that provided the stimulus for the higher level of industrial growth up to 1965, while, on the other hand, these options were limited and also costly in the latter period. This argument is of doubtful validity. The import-substitution process in the capital goods industries had continued in the latter period also, but their growth was impeded due to a lack of demand resulting from inadequate public investment.

Another argument emphasizes the constraints imposed by wage goods as the limiting factor for industrial growth. This also cannot explain a large part of the difference as the growth rates of agriculture during the two periods have been roughly the same. In my opinion, the deceleration in industrial growth in India from the mid-1960s to the late 1970s was caused by a combination of a variety of factors. Important among these were slackening in the rate of growth of real public investment, especially in infrastructural facilities, inadequate expansion of the home market resulting from insufficient growth in per capita productivity in the agriculture sector, and erratic fluctuations in the production of industrial raw materials originating in the agriculture sector. All these factors led to excess capacities in the industrial sector which further accentuated the deceleration in industrial growth.

However, there has been a substantial recovery in industrial growth in the 1980s, mainly as a result of a perceptible improvement in infrastructural facilities. Capacity utilization in the capital goods and intermediate goods sectors has improved. The value-added in the registered manufacturing sector recorded an annual growth rate of 6.9 per cent during 1981-1985, which had increased to over 9 per cent in 1985-1986. Large investments have been made in industries such as cement and fertilizers for modernization and expansion of capacities. In fact, the supply of these commodities is now in excess of demand. Modernization of steel plants is under way. Public investment in the energy and transport sectors has been substantially increased. Given these conditions, the prospects of a sustained industrial growth of around 7 per cent to 8 per cent are quite good in India.

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[11] This analysis is based on available data in Department of Statistics, Ministry of Planning, Government of India, *op. cit.*

Pakistan has recorded a fairly high level of industrial growth during the past three decades. Much of this growth has been contributed by the expansion of large-scale manufacturing (see Table 4). The share of the manufacturing sector in GDP increased from 7.7 per cent in 1949/50 to 19.9 per cent in 1985/86.

Table 4: **Trends in the Growth of Manufacturing in Pakistan**
(Per cent per year)

Period	Small Scale	Large Scale	Total
1950-1960	2.3	15.4	7.7
1960-1970	2.9	13.3	9.9
1970-1980	7.9	4.7	5.5
1980-1986	9.4	7.8	8.2

Source: Economic Adviser's Wing, Finance Division, Government of Pakistan, *Pakistan: Basic Facts, 1985-86* (Islamabad, December 1986).

However, within the manufacturing sector, the share of large-scale manufacturing in GDP increased from 2.2 per cent to 14.4 per cent between 1949/50 and 1985/86, while that of small-scale manufacturing stagnated at around 5.5 per cent. In fact, the share of the small-scale manufacturing in GDP had declined to 3.5 per cent in 1969/70 and later gradually increased to 4.7 per cent in 1979/80 and 5.5 per cent in 1985/86 (see Table 5).

Table 5: **Trends in the Share of the Manufacturing Sector in Gross Domestic Product in Pakistan**
(Percentage of GDP)

Year	Manufacturing		Total
	Small Scale	Large Scale	
1949/50	5.5	2.2	7.7
1959/60	5.1	6.9	11.9
1969/70	3.5	12.5	16.0
1979/80	4.7	12.4	17.1
1985/86	5.5	14.4	19.9

Source: Economic Adviser's Wing, Finance Division, Government of Pakistan, *Pakistan: Basic Facts, 1985-86* (Islamabad, December 1986).

The expansion of large-scale manufacturing has, of course, enabled Pakistan to produce a wide variety of manufactured goods such as cement, fertilizers, chemicals, and iron and steel apart from the traditional agro-based products such as textiles and sugar. The relative growth performance of different industries shows that labor-intensive industries (e.g., textiles) have been growing at a much lower rate than capital-intensive industries (e.g., basic metals and chemicals). In view of this pattern of industrial growth, the scope for additional employment generation in the manufacturing sector has been very limited. However, the faster growth of small-scale manufacturing since the 1970s might have generated more employment opportunities. Even then, the share of employment in industry as a whole declined from 18 per cent to 16 per cent between 1965 and 1980. Thus, the high growth in manufacturing along with a reduction in the share of employment does not conform to the typical pattern of structural transformation during the process of industrialization. The main bottleneck in Pakistan is the inadequate and poor quality of infrastructural facilities. The railways are characterized by old and worn-out assets, outdated machinery and inefficient operation. Freight carried by railways had stagnated at 13 million tons throughout the 1960s and 1970s while it declined to 11 million tons by 1980/81.[12] Public investment in the transport and power sectors has been low for a long time and this was set right to some extent only in the Sixth Plan (1983-1988).

The industrial sector in Sri Lanka contributed about 26 per cent to GDP in 1985 of which the manufacturing sector accounted for about 15 per cent of GDP. The manufacturing sector is dominated by agro-based industries such as food processing, beverages, tobacco, textiles and resource-based industries such as non-metallic mineral products. The industrial sector has been, however, undergoing some diversification with the setting up of a small steel plant and an oil refinery. In 1977 the new government made some drastic changes in its industrial policies. The new industrial strategy was based on export orientation in which the private sector and foreign investment were given greater emphasis. The manufacturing sector is characterized by the relative large share of public enterprises which account for 55 per cent to 60 per cent of value-added in the manufacturing sector. The share of the public sector has remained large despite the relatively low production efficiency of public sector enterprises and the pursuit of market-oriented industrial policies.

To promote exports, a free trade zone has been set up as in many other developing countries. The intention was to attract foreign private investment. This experiment has, however, not been very successful. The garment units are the largest in number in this zone, contributing to the recent spurt in exports. Two more free trade zones are to be established for boosting exports of manufactured goods such as electronic items. Sri Lanka carried out major economic reforms since 1977. The major aspects of these reforms are removal of import, foreign exchange and price controls; devaluation of the currency; reduction in taxes; reduction or abolition of consumer subsidies; and free entry for foreign investment. These measures were intended to stimulate the private sector, increase employment opportunities, boost production and increase the level of savings and investment. However, such structural adjustment policies provide a "one-shot" benefit but may fail to lead to sustained growth over a longer period.

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[12] Economic Adviser's Wing, Finance Division, Government of Pakistan, *op. cit.*, p. 62.

Social Development

One of the major problems in South Asian countries has been the persistence of poverty. In the early days of development policy, it was widely held that the eradication of poverty was dependent on economic growth for which material capital formation was essential and that increasing the share of the poor in total consumption would reduce the capacity of the better-off sections of society to save and thereby affect aggregate saving in these economies which were already faced with allegedly severe savings constraints. But, at the same time, it cannot be maintained that the planning process altogether overlooked the problem of poverty since it was generally believed that the "trickle-down" process would transmit over time the benefits of growth widely through society, including the poorer sections of the population. The main point of early development thinking was that a judicious attempt should be made to reconcile the interests of future generations with that of current ones, it being assumed tacitly that the issue of distribution among the contemporaries would be addressed through institutional reforms.

These views have come into sharp criticism, at least since the early 1970s. I do not wish to review the debate on this issue here, except to note a few points that are relevant to the discussion in this article. First, the assumption that the "trickle-down" effect would percolate to all segments of the population implies a fairly high degree of homogeneity and mobility among the population, both spatially and socially. This, however, is certainly not the case, at least in the South Asian countries. Second, an increase in physical capital formation by itself cannot ensure rapid economic growth unless it is supplemented by an increase in human capital formation. Human resource development has become all the more important for the South Asian countries which have been experiencing rapid growth in population over the past two to three decades. Third, public policies which increase the consumption of the poor can simultaneously promote equity and growth. Public expenditure on basic education, imparting of skills, nutrition, health and medical facilities provides direct consumption benefits to the poor, but it should be regarded more as an investment in human capital insofar as it enables to improve the productive capacity and thereby contribute to growth. Fourth, poverty and population growth are interrelated to a large extent at least in the South Asian countries. Elements of human resource development such as expansion of health and medical facilities, improvement in literacy rates and educational levels are not only helpful in reducing the incidence of poverty, but also in reducing the growth in population through reduced levels of fertility over a period of time. In fact, all these elements are closely interrelated and improvement in any one area can facilitate improvements in other areas and reinforce the growth process.

While we have highlighted the complementarities that exist between growth and human resource development programs, some development economists even now emphasize the trade-offs between growth and equity objectives of economic development. These two contrary viewpoints have led to considerable debate which has also produced some very useful empirical research. In the course of this debate, some have argued that if development is to be meaningful, then the highest priority has to be accorded to the eradication of poverty and malnutrition for which direct measures are required instead of relying on the growth process which may not transmit the benefits to the poor within a reasonable span of time. Some have even argued that the growth process has completely bypassed the poor, especially the rural poor and, in their viewpoint, there is a need for direct government intervention to provide an equitable share of goods and services to the poor, especially for meeting their basic needs.

Among the South Asian countries, Sri Lanka has often been cited as an outstanding example where direct measures to improve the welfare of the poor have been successfully implemented without sacrificing much in terms of economic growth. It has been argued that large amounts of social development expenditures have made it possible for Sri Lanka to achieve a high standard of living as reflected in terms of long life expectancy, low rate of population growth and a fairly high level of per capita calorie availability. However, since 1977 social development expenditures have been reduced and greater emphasis has been given to the objective of economic growth. While it might be too early to pass judgments on these policy changes in terms of their effect on the economic welfare of Sri Lanka's population, especially the poor, although some adverse trends are discernible, it is useful to review the social development process in Sri Lanka in comparison with the other South Asian countries.

Life expectancy in Sri Lanka increased from 62 years in 1960 to 70 years in 1985, whereas in 1985 it was only 56 years in India and 51 years in both Bangladesh and Pakistan. The infant mortality rate in Sri Lanka declined from 71 (per thousand live births) in 1960 to 36 in 1985 while it was much higher in Bangladesh (123), Pakistan (115) and India (89) in 1985. The child death rate (children between 1 and 4 years) in Sri Lanka was at a low of 2 (per thousand) in 1985 while it was 11 in India, 16 in Pakistan and 18 in Bangladesh. The adult literacy rate among males in Sri Lanka was as high as 91 per cent in 1985, whereas it was only 36 per cent in Pakistan, 40 per cent in Bangladesh and 47 per cent in India. The rate of population growth in Sri Lanka declined from 2.4 per cent per annum in the 1960s to 1.4 per cent in the early 1980s, whereas it was at a high level of 3.1 per cent in Pakistan, 2.6 per cent in Bangladesh and 2.2 per cent in India. The crude birth rate in Sri Lanka declined from 36 in 1960 to 25 in 1985 while it was at a high level of 44 in Pakistan, 40 in Bangladesh and 33 in India. The sharp decline in the birth rate in Sri Lanka was due to a reduction in fertility rate which could be attributed to a high level of literacy among females (81 per cent in 1985) and large-scale adoption of family planning methods. The percentage of married women in the child-bearing age group using contraceptives in Sri Lanka increased sharply from 6 per cent in 1970 to 57 per cent in 1985, whereas it was only 35 per cent in India, 25 per cent in Bangladesh and a mere 8 per cent in Pakistan.

Sri Lanka has also been operating a subsidized food distribution program for a long time, the supplies for which come partly from domestic production and partly from imports. As a result of this program, the per capita daily calorie supply in Sri Lanka reached a level of 2,385 in 1985, while it was only 2,189 in India, 2,159 in Pakistan and 1,899 in Bangladesh. A study of the Sri Lankan public food distribution system pointed out that the income redistribution effects of the system have been quite significant in terms of raising the real incomes of the poor and of augmenting human capital apart from indirect effects such as employment generation and returns to labor due to increased domestic rice production.[13]

However, the cost of operation of the food distribution system placed a heavy burden on the Sri Lankan exchequer during the 1970s. With a view to overcome these difficulties, some major policy and institutional changes were introduced in 1978. The measures included a substantial reduction in the commitment to food price subsidization, reduced eligibility for food ration, its substitution by fixed-value food stamps, and increases in official prices.

The question arises as to the impact of these policy changes on the food consumption and nutrition status of the poor in Sri Lanka. This issue has been analyzed recently by a few economists in the course of the debate on the efficacy of direct and indirect approaches for improving the welfare of the poor in Sri Lanka. Sen has argued that Sri Lanka could achieve the social objectives of the development process mainly because a large percentage of the government budget was continuously devoted to food subsidy and other social services over a number of years. He, however, implicitly recognized that there could be a trade-off between social expenditures and growth when he posed the question as to whether the growth rate in Sri Lanka would have been much higher in the absence of social welfare programs, and he concluded that if Sri Lanka's GDP grew at the rate of 2 per cent per annum, it would take 152 years to achieve income levels corresponding to its life expectancy level of 69 years in 1975. In other words, Sen's viewpoint is that it would take a long period for developing countries to achieve gains in terms of social welfare if they depended solely on the income growth process, and hence the need to implement direct measures to provide basic needs to the poor.[14]

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[13] Gavan and Chandrasekhara, *op. cit.*

[14] A.K. Sen, "Public Action and the Quality of Life in Developing Countries", *Oxford Bulletin of Economics and Statistics* (November 1981), pp. 287-319.

This view has, however, been recently challenged by Bhalla and Glewwe.[15] In their opinion, Sri Lanka's relatively high performance in the late 1970s in terms of social indicators cannot be solely attributed to the social development policies pursued since 1960 because Sri Lanka enjoyed very favorable initial conditions in terms of high living standards and other social indicators even as early as 1948. They have argued that the conclusion that Sri Lanka had performed exceedingly well in the mid-1970s due to high levels of social welfare expenditures since 1960 is the result of the drawback in the methodology that ignored the initial conditions. Further, they have also argued that while the rate of economic growth in Sri Lanka has been much higher during 1977-1984 (period of post-economic reforms) compared with the period 1960-1977, living standards of the poor have also increased at a much faster rate during 1977-1984. In other words, their argument is that the economic reforms that were introduced in 1978 which curtailed social welfare expenditures and placed greater emphasis on growth have promoted social welfare to a greater extent than the policies pursued earlier that laid emphasis on direct measures.

What does the above analysis signify in terms of development experience? It is useful to remember in this context that the South Asian countries had to initiate three crucial transitions more or less simultaneously. These transitions can be listed as the demographic transition, the agrarian transition and the transition towards an industrial society. Differences in terms of initial conditions relating to the above aspects among the South Asian countries are likely to influence the pace of these transitions and also the pattern of economic growth.

Since Sri Lanka had enjoyed favorable initial conditions in terms of social indicators, it could achieve a rapid reduction in the rate of growth of its population within a short span of time. But this, however, has not led to structural changes either in the labor force or even in output. Even then, the living standards of the people could be continuously improved not only because of the growth in social welfare expenditures alone but also because of certain special features of the Sri Lankan agriculture sector. However, it is not clear whether these conditions can persist for a long time without bringing about the two other transitions.

To illustrate, the Sri Lankan agricultural economy is dominated by three plantation crops, viz., tea, rubber and coconuts. Tea and rubber are mostly in the organized sector. Labor welfare measures such as health, medical and educational facilities have continued for quite long in the organized plantation crops sector, irrespective of ownership either in the private or public sector. Further, labor organizations in the plantation crops sector have also ensured that there was no erosion in their real wages in spite of fluctuations in the export earnings of these crops. In addition, growth in rice production in Sri Lanka, especially during the 1950s and 1960s, as noted earlier, took place mainly through new colonization schemes under which landless peasants were allotted government land, particularly land under new irrigation schemes, apart from the provision of cheap credit and subsidized inputs. Because of these factors, Sri Lanka could continue to maintain the living standards of the population without any great pressure as yet to carry out the much needed agrarian or industrial transition as typified in the "normal" development process.

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[15] Surjit S. Bhalla and Paul Glewwe, "Growth and Equity in Developing Countries: A Reinterpretation of the Sri Lankan Experience", *The World Bank Economic Review* (September 1986), pp. 35-64.

On the other hand, the demographic transition in Bangladesh, India and Pakistan is delayed not only because of their rapid rates of growth in population but also because of constraints due to the lack of a full-fledged agrarian transition. These countries have promoted agricultural growth more or less on a sustained basis through the adoption of new cereal technology coupled with the substitution of traditional by modern inputs. Undoubtedly, this process has helped in achieving substantial increases in land productivity, given the land resource constraints experienced by these countries. Yet this process of agricultural growth cannot be totally relied upon for transmitting the full benefits of the new technology to the rural poor, especially to small landowners and agricultural labor, because of the presence of strong structural obstacles such as a skewed pattern of landholdings, fragmentation of land and adverse forms of tenancy relationships. In view of these factors, the new technology tends to have a distributive bias in favor of those having larger landholdings. The central concern of future policymaking for promoting agricultural growth in the South Asian countries should be to give greater emphasis to agrarian reforms which would help in turning the distributive bias in favor of the rural poor. If, however, political regimes in the South Asian countries are either unwilling or unable to carry out full-fledged agrarian reforms, then the only other alternative to absorb the surplus agricultural labor is to design appropriate strategies for speedy industrialization.

In my opinion, the outward-looking industrialization strategy of the East Asian countries may not be easily replicable in the case of the smaller South Asian countries for various reasons. First, the East Asian countries had already carried out major land reforms in the early 1950s which released surplus agricultural labor at highly flexible wage rates that facilitated their rapid industrialization since the 1960s. Second, they benefited from large amounts of foreign credit on easy terms, initially as aid from the United States and latterly through trade links with Japan. Third, they had laid sufficient emphasis on education, skill formation and material capital accumulation. Above all, there was a strong combination of conjunctural and cultural factors along with a mixture of institutional motive forces, including a powerful blend of state directives along with operation of market forces in the areas of trade and industry. All these factors enabled the East Asian countries to move rapidly towards an industrial society. But the South Asian countries do not display these characteristics to any notable extent.

The increasingly protectionist policies pursued by the industrialized countries as well as the slowdown in the rate of growth in their imports of labor-intensive manufactures have diminished the export prospects for the future. This makes it all the more difficult for the South Asian countries to adopt an outward-oriented industrialization strategy even if it is granted that these countries are capable of producing a range of manufactured products at competitive prices.

The South Asian countries have to evolve an industrialization strategy that suits their resource endowments. The strategy should lay greater emphasis on the rapid development of basic consumer goods industries such as food products, textiles, leather products and other agro-based industries. This would also provide scope for exporting simple consumer goods and semi-processed raw materials. On the other hand, the process of industrialization based on the development of consumer durable goods industries would only aggravate the existing disparities in living standards since the domestic demand for these products could only be expanded through policies favoring income concentration.

The design of a new industrialization strategy for the South Asian countries has to be carried out in the light of exploiting a potentially large home market. The potentiality cannot, however, materialize without an increase in marketable surplus of agriculture with a concomitant upward shift in labor and land productivity. For achieving these productivity gains, an integrated program involving human resource development in the rural areas and an augmented infrastructural support base through better roads and communication, along with a relatively inexpensive source of power, would appear to be essential. The role of public investment in irrigation would appear to be very important.

The role of high technology in industrial development in South Asia would appear to be primarily, at this stage of development, in improving the efficiency of *scarce resources* in meeting *basic needs* rather than in moving towards a *new product mix.*

Savings

Growth in domestic savings is a basic prerequisite for rapid economic development. Among the South Asian countries, India's performance stands out in mobilizing and increasing domestic savings. The saving rate in India had increased from about 14 per cent of GDP in 1965 to 21 per cent in 1985, while the rate of domestic investment had increased from 18 per cent to 25 per cent during the same period. On the other hand, the rate of domestic saving had declined from 8 per cent to 3 per cent of GDP in Bangladesh between 1965 and 1985 while it declined from 13 per cent to 5 per cent in Pakistan during this period. The rate of domestic saving has been stagnating at around the low level of 13 per cent in Sri Lanka over the last two decades.

However, Bangladesh, Pakistan and Sri Lanka have been able to maintain high levels of domestic investment in spite of their low levels of domestic savings. This is largely due to the inflow of foreign savings in the form of aid, loans and more recently remittances from nationals working abroad.

Remittances from nationals working abroad have been an important source of foreign exchange of the South Asian countries since the late 1970s, which enabled them to partly cover their trade deficits. In Bangladesh remittances amounted to 15 per cent of the trade deficit in 1978 which increased to over 22 per cent in 1982. In the case of Pakistan, it covered as much as 70 per cent of the trade deficit between 1978 and 1982.[16] While remittances have helped India to cover the trade deficit, this by itself has not been a major factor in achieving higher levels of domestic investment because the rate of domestic saving in India has been rising over the last three decades.

The increased dependence on foreign loans has increased the debt-service burden of some South Asian countries. The ratio of debt to GNP increased from 16.4 per cent in 1970 to 47.6 per cent in 1985 for Sri Lanka while it increased from 9.5 per cent to 37.1 per cent for Bangladesh during the same period. Both these countries have been kept out of danger so far since much of their debt has been on concessional terms. But given the trends in the growth in foreign debt in these countries, there is always a potential danger of serious debt-service problems at some later stage that would constrain their growth.

The basic point in the case of India is that the marginal propensity to save of the private sector, especially households, has continued to be high, irrespective of the changes in income distribution that might have taken place over the last two or three decades. Further, at least until recently, the marginal propensity to save of the public sector was also fairly high. The growth in savings of the household sector in India has further been assisted by the process of financial deepening, diversification of saving instruments, maintenance of positive real interest rates, especially in recent years, and changes in the saving habits of the population.

On the other hand, the marginal propensity to save of the private sector has been much lower in Sri Lanka and very low in Pakistan. For the period 1960-1978, it was 0.24 for India compared with 0.18 for Sri Lanka and 0.11 for Pakistan.[17]

In addition, the share of public savings has also been going down in the South Asian countries. This is partly attributable to the growth in unproductive public expenditure such as interest payments, defense, and consumer and producer subsidies. Part of the reason is also found in the inability of the public enterprises to raise enough resources. While in the case of India at least the fall in public savings has been compensated by the rise in private savings so as to maintain the overall savings at a fairly high level of around 22 per cent to 23 per cent, there has been no such corresponding improvements in the level of private savings in the other South Asian countries.

On the whole, it is clear that it would be very difficult for Bangladesh, Pakistan and Sri Lanka to achieve sustained economic growth unless vigorous efforts are made by them to raise substantially their levels of domestic savings which are quite low by all standards.

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[16] Economic and Social Commission for Asia and the Pacific, *Economic and Social Survey of Asia and the Pacific, 1982* (Bangkok), p. 59.

[17] Economic and Social Commission for Asia and the Pacific, *op. cit.*, p. 124.

Conclusion

The broad objective of this article has been to review the development experience of selected South Asian countries, namely, Bangladesh, India, Pakistan and Sri Lanka, and to indicate the type of development strategies that need to be evolved in the future. For reasons of brevity, it has become necessary to focus on specific areas of development experience in these countries, leaving aside other areas such as foreign trade and external transactions which might also be considered equally important. Indeed, even within the selected areas, an attempt has been made to highlight particular aspects of development experience since, in my opinion, these aspects need to be given greater attention in the future development strategies of these countries. Some of these aspects are common to all the four selected countries while a few others are more country-specific. It would be in order to summarize them here.

The South Asian countries have a large labor force residing in the rural areas and dependent mainly on agriculture. Given the rapid rate of growth of population in Bangladesh, India and Pakistan, the rural labor force is growing at a faster rate than the rural population. Since there are limitations to the speed at which the surplus labor in the agriculture sector can be more gainfully employed in non-agricultural occupations, even if a labor-intensive industrialization strategy is pursued, it is obvious that the South Asian countries have to carry the burden of surplus agricultural labor for at least a few more decades. In view of the severe land constraints already operating in these countries, it becomes all the more important for them to design agricultural strategies that would be both land-esque and labor-esque. This would at least prevent the fall in labor productivity even if it does not help in increasing it in the near future.

Agricultural development, especially foodgrain production, should be given a high priority in the overall development strategy in these countries. While Bangladesh and Sri Lanka continue to remain food-deficit countries, India has achieved a considerable measure of success in meeting its food requirements. On the other hand, Pakistan, even though enjoying surplus food production at present, has been having a high rate of population growth and a low rate of growth in foodgrain production in recent years. Moreover, agricultural production in South Asia is still very much dependent on monsoons and sharp fluctuations in production due to adverse climatic conditions which are not uncommon. Hence, considerations of food security dictate that foodgrain production should receive a high priority in the development strategy for the agriculture sector.

The spread of the new agricultural technology has been confined to specific crops and regions and to certain classes of farmers. It is, therefore, necessary to devote more resources to agricultural research and extension activities to overcome these imbalances. This would ensure that the benefits of growth flow to more regions and classes of farmers and at the same time impart a degree of stability to agricultural production in the face of uncertainties due to variations in weather at the regional and local levels in these countries.

Despite the scale-neutrality of the new agricultural technology, there has been no perceptible change in the unequal distribution of income or assets. The situation might have actually worsened in some areas. Though this issue is still being debated, it is clear that at least for South Asia, a certain measure of agrarian and institutional reforms, including reforms in the credit and other input delivery systems, is essential even if full-fledged reforms of the entire agrarian structure cannot be currently envisaged.

Countries such as Bangladesh and Sri Lanka are structurally "undiversified" economies in that the performance of their agriculture sector is very much dependent on the export earnings of a few primary products. Their domestic demand for these commodities accounts for only a small proportion of their overall production and, hence, instabilities created in the international markets affect their overall economic growth. Further, it is difficult for them to diversify their exports to any reasonable degree within a short time. Since the interests of South Asian countries are common to some extent in these commodities, it would be desirable for them to evolve some kind of a trade bloc with a view to avert serious losses in their terms of trade.

Intraregional trade among the South Asian countries has remained very limited. Intraregional exports were only 3.4 per cent of the total exports in 1984 while intraregional imports were even lower at 1.9 per cent. There might be a number of reasons for this low level of trade among South Asian countries such as resource constraints, communication gaps and tariff structures. The South Asian countries should explore seriously the possibilities for establishing a regional economic system under the auspices of the South Asian Association for Regional Cooperation (SAARC) with a view to exploiting the complementarities in their production structures and promoting intraregional trade.

For various reasons, the public sector has to continue to play an important role in the development process in the South Asian countries. First, the countries are still very handicapped due to a lack of adequate infrastructural facilities such as power, transport and communications. These are areas from which the private sector shies away even assuming that it can raise the necessary resources for lumpy investments needed for such projects. Second, the countries have started pursuing liberal economic policies in recent years. The argument put forward for the adoption of such policies rests on the assumption that the free play of market forces would lead to efficient allocation of resources. But given the imperfections in the markets for credit, labor and even technology, it is wishful thinking to assume that the markets in these countries would provide the correct price signals. In fact, state intervention is precisely called for, if only to overcome the distortions imposed by the market imperfection.

The industrial and technological policies in the South Asian countries should take into account their resource endowments and their objectives should be to achieve industrialization through more efficient use of available resources. The importance that is to be given to either import substitution or export promotion depends obviously on various economic considerations of which the size of the domestic market is an important one. While, given its size and heterogeneity, the industrialization process in India may have to rely on selective import-substitution possibilities, the remaining small-sized countries in South Asia have to purse an industrial development strategy that is more oriented towards export promotion. It might prove too costly for the small countries to venture into heavy industries even if foreign investment is forthcoming because these countries lack trained technical and managerial manpower; further, the technologies in the capital goods industries in the industrialized nations themselves are undergoing rapid changes which would prove to be bottlenecks for the small countries. Even for India, the continued emphasis on import substitution and upgrading of technology should be considered as a transitional phase for ultimately developing competitiveness in export markets.

An important aspect of the future industrial development strategy in the South Asian countries should be to provide greater emphasis on the growth of agro-based industries producing mass consumption goods such as textiles, food-processing, sugar and edible oils. A faster growth of these industries would strengthen both production and consumption linkages between the agriculture and industrial sectors which would, in turn, provide more benefits in employment, income and improvements in the standards of living. It has been observed in recent years that the growth of industries such as consumer durables has been quite rapid in many South Asian countries. On the one hand, these industries serve mainly the needs of the middle and upper classes of the population and, on the other hand, their import intensity in terms of raw materials and components is also quite high. The growth of these industries has to be contained.

In this context, it should be emphasized that the South Asian countries, given their resource constraints and high population densities, cannot afford to imitate the type of industrialization and urbanization process of the industrialized countries which involved the intensive use of energy, mineral, forestry and other natural resources to satisfy the needs of an overconsumptive society and which have also created a variety of ecological problems. The South Asian countries have, therefore, to evolve an industrialization pattern suited to their resource endowments such that the ecological balance is maintained to permit sustained growth. It is now well accepted even in industrialized countries that an unregulated market mechanism does not fulfill this requirement. The South Asian countries have to bear this aspect in mind in formulating their industrialization policies for the future.

The South Asian countries, excepting Sri Lanka, have not given sufficient attention to social development activities, at least until recent years. Human resource development should form an important component of their overall development strategies. This would, in the short term, prevent the accentuation of problems of labor redundancy in backward regions and lagging sectors while, in the long term, it would facilitate the process of structural transformation.

A crucial problem of development in Bangladesh, Pakistan and Sri Lanka has been their savings constraint. Hitherto, access to foreign exchange resources rather than domestic savings has been the crucial determinant of their economic growth. On the one hand, their export earnings have been inadequate to meet their needs of critical imports. On the other hand, their rates of domestic saving have not shown improvement over a longer period to meet the rise in investment on which they depend for their continued growth. This has increased the burden of external debt and servicing charges.

The long-term debt service as a proportion of GNP reached 3.2 per cent in Pakistan and 4.1 per cent in Sri Lanka by 1985. The continuous inflow of foreign capital in these countries is likely to cause serious problems. Some consider that it would dampen domestic savings while others argue that it would stimulate domestic savings. But unless the pattern of investment results either in import savings or export earnings, the increased inflow of foreign capital cannot bring about self-sustaining growth. In fact, increased capital inflows can lead to a state of permanent dependence which may be inconsistent with other national goals. It is, therefore, very necessary that public policies in Bangladesh, Pakistan and Sri Lanka focus on the mobilization of domestic savings. This requires a considerable measure of rise in productivity, restraints on consumption, especially of the richer sections of the population, strengthening of financial infrastructure, and the pursuit of appropriate fiscal and monetary policies. In particular, expansion of the domestic market for essential consumption goods and services should play a much greater role in the future development process in these countries.

Asian Development: A View from the Paddy Fields

Yujiro Hayami*

It may be presumptuous for a pedestrian agricultural economist such as myself to present an overall perspective of Asian economic development. I know little about sophisticated macroeconomic models, and even less about the preferences and decision-making rules of politicians, bureaucrats and business executives. I am, however, familiar with work and life in rural villages in the rice-producing regions of Asia, and thus present my view in the hope that it will provide a perspective which is somewhat different from that of development theorists and planners.

Economic Performance

It would be useful to first present an overview of economic growth in the Asian region. Even a cursory look at available macroeconomic statistics reveals the impressive growth performance of the Asian region, especially East and Southeast Asia (see Table 1). The emergence of Japan from developing country status into a major industrial power since the mid-1950s is a well-known story. A decade and a half later, Asian Newly Industrializing Countries (NICs) such as the Republic of Korea began their spurt in industrial development at a rate even faster than that of Japan. This was followed by the Association of Southeast Asian Nations (ASEAN) countries.

Even during the 1960s, industrialization and economic growth were relatively rapid in the ASEAN region, in part because of the prosperity made possible by rapid economic growth in the industrialized countries. An impressive aspect of growth in the ASEAN countries is that during the decade following the oil crisis of 1973, the real growth rate of total gross domestic product (GDP) in the ASEAN region was about 7 per cent and that of GDP from manufacturing was nearly 10 per cent, despite the sharply slower growth in the developed countries.

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Table 1: **Macroeconomic Indicators of Selected Countries**

Country	Per Capita Gross National Product	Real Annual Growth Rate (%)				Share of Manufactures in Merchandise Exports (%)		Debt Service/ Exports (%)		
		Gross Domestic Product		Manufacturing						
	($, 1984)	1960-1970	1973-1984	1960-1970	1973-1984	1960	1983	1970	1980	1984
Developing Asia										
India	260	3.4	4.1	4.7	5.9	45	52	22	9	10
Indonesia	540	3.9	6.8	3.3	14.9	1	8	7	8	15
Malaysia	1,980	6.5	7.3	..	8.7	6	22	4	2	8
Philippines	660	5.1	4.8	6.7	4.3	4	50	8	7	14
Sri Lanka	360	4.6	5.2	6.3	3.6	1	29	10	6	11
Thailand	860	8.4	6.8	11.4	10.0	2	32	3	5	12
Newly Industrializing										
Brazil	1,720	5.4	4.4	..	14.9	3	40	13	34	27
Republic of Korea	2,040	8.6	7.2	17.6	11.5	14	91	19	12	14
Mexico	2,040	7.2	5.1	9.0	5.0	12	27	24	32	34
Industrial Market Economies										
Average	11,430	5.2	2.4	5.9	2.1	66	74			
Japan	10,630	10.9	4.3	11.0	7.2	79	97			

.. = not available.

Source: World Bank, *World Development Report 1982, 1983, 1984* and *1986* (New York: Oxford University Press).

The economies of the ASEAN countries have been rapidly shifting away from their traditional reliance on exports of primary commodities. This is evident from the rapid increase in the share of manufactures in total exports which took place during the 1960-1983 period: from 4 per cent to 50 per cent in the Philippines, 2 per cent to 32 per cent in Thailand, 6 per cent to 22 per cent in Malaysia, and from 1 per cent to 8 per cent in oil-rich Indonesia. The increases in the domestic saving rate and the improvement in the quality of industrial manpower and know-how that occurred during this period suggest that the ASEAN economies seem to have reached the self-sustaining stage. While the growth performance of the South Asian region has been less impressive than that of the Southeast Asian region, it has been superior to that of most other low-income regions.

Similar rates of industrialization and economic growth have occurred in the Latin American NICs such as Brazil and Mexico. Yet the growth process of the Asian NICs and the ASEAN countries seems much healthier and more self-sustaining than that of their Latin American counterparts. For example, from 1970 to 1980, the debt-service (debt service/exports) ratio of the Republic of Korea declined from 19 per cent to 12 per cent, despite extremely large capital inflows into the country, and those of the ASEAN countries remained largely unchanged at less than 10 per cent. In this respect, the economies of South Asia fared well, even though the rates of national income growth and industrialization were lower than in East and Southeast Asia.

This implies that capital imported into the Asian region was successfully converted into productive assets which, in turn, increased the productivity and international competitive position of the industrial sectors of the countries concerned at a rate sufficient to cover their external debt-service obligations. In contrast, the debt-service ratios of Brazil and Mexico rose sharply from 20 per cent in 1970 to more than 30 per cent in 1980. Contraction of developing country exports due to the world recession following the second oil crisis in 1979 raised the debt-service ratios of most developing countries. While in some ASEAN countries this ratio is reported to be approaching a "critical threshold" of 20 per cent, it is still far lower than in the Latin American NICs.

Persistent Poverty

Apart from the NICs, a disquieting aspect of growth in most Asian developing countries is that their impressive records of industrialization and overall economic growth have not been accompanied by increases in the real wage, except for the urban organized sector. One study, for example, showed that the real wage rates of agricultural laborers declined or, at best, remained stagnant over the previous two decades.[1] What do declining wage rates imply for economies in which income per capita has been rising as fast as 5 per cent per year? It means that property income rose at the expense of income to laborers. Thus, laborers owning no property have been immiserized relative to the property-owning class.

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[1] Asian Development Bank, *Rural Asia: Challenge and Opportunity* (New York: Praeger Publishers, 1978).

There are indications, however, that real wage rates in ASEAN countries began to rise during the 1980s, with the notable exception of the Philippines. However, recent increases in wage rates in Southeast Asia do not appear to be rapid enough to prevent a relative decline in income to labor, and in much of South Asia there has been little indication of secular increases in wage rates.

One of the basic forces underlying stagnant or declining wage rates is population pressure on agricultural land. Developing countries throughout the world, Asia not excepted, have experienced explosive population growth since World War II. Increases in industrial employment have been grossly insufficient to absorb the increases in the labor force. Meanwhile, the possibility of opening new land for cultivation has also been exhausted. The man/land ratio has deteriorated rapidly due to a doubling of the number of agricultural workers per hectare within the past half century. As increasing numbers of workers seek employment on a limited amount of land, wages are bid down and unemployment or underemployment results though land rents increase, thereby widening the income gap between landlords and landless tenants and laborers.

This scenario closely fits the view of classical economists such as David Ricardo. As population growth impinges on land resources, cultivation frontiers expand to ever more marginal land, and greater amounts of labor are applied per unit of cultivated area; the marginal return to labor declines and the cost of food production rises. This leads to higher food prices, lower real wage rates measured in terms of foodgrains, and higher land rents. In the end, wages fall to the minimum necessary for maintaining a stationary population, and all economic rent is captured by landlords.

A study conducted of a rice village in West Java illustrates this scenario.[2] Owing to continuous population pressure over the past several decades in this village, the man/land ratio became extremely unfavorable. The average farm size was only 0.3 hectare and as many as 40 per cent of the villagers owned less than 0.1 hectare of land. Over the past decade, the real wage rate declined by more than 10 per cent from 9.5 kilograms (kg) of paddy per day to 8.5 kg. Meanwhile, land rents increased by about 40 per cent.

This real wage decline led to a change in rural community institutions. Under the traditional rice harvesting system in Java called "bawon", each villager participates in harvesting and receives a share of the harvest. Though this system exemplifies the traditional community principle of mutual help and income sharing, it has recently undergone substantial change. Stronger limits have been placed on participation in harvesting (see Table 2). The purely open (PO) "bawon"

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[2] Yujiro Hayami and Masao Kikuchi, *Asian Village Economy at the Crossroads* (Tokyo: University of Tokyo Press, 1981; Baltimore: Johns Hopkins University Press, 1982), Chapter 8.

Table 2: **Changes in the Rice Harvesting System in a Village in West Java**
(Percentage of farmer-adopters)

	Bawon[a]				Ceblokan[b]					
	PO	**OV**	**OM**	**LI**	**1/6(T)**	**1/7(T)**	**1/7(T+W)**	**1/7(H+T)**	**1/7(H+T+W)**	**Total**
1950s	35	29	18	18						100
1960-1961	29	31	21	19						100
1962-1963	16	34	33	17						100
1964-1965	9	16	16	32	27					100
1966-1967	3	10	8	27	52					100
1968-1969	1	4	6	19	44	24	2			100
1970-1971			2	10	33	51	4			100
1972-1973				8	17	67	8			100
1974-1975				7	15	67	10	1		100
1976-1977				4	7	67	18	2	2	100
1978				4		72	19	1	4	100

a "Bawon" system: PO = purely open, OV = open for villagers only, OM = open with maximum limit, LI = limited to invitees.

b "Ceblokan" system: 1/6, 1/7 refer to the harvester's share; T, W, H refer to obligatory works to establish the harvesting right (T = transplanting, W = weeding, H = harrowing).

Source: Yujiro Hayami and Masao Kikuchi, *Asian Village Economy at the Crossroads* (Tokyo: University of Tokyo Press, 1981; Baltimore: Johns Hopkins University Press, 1982), p. 184.

system was first replaced by a system limiting participation to villagers only (OV), then by another system which limited the maximum number allowed (OM), and finally by a more restrictive system under which participation in harvesting was limited to those who had received specific invitations from farmers (LI).

The "bawon" system was then entirely replaced by a system called "ceblokan" under which participation in harvesting was allowed only to those who provided additional rice planting services without pay. More recently, the harvester's share of output was reduced to one seventh, and weeding and harrowing were added to the list of duties required of harvesters. The effect of these changes was to reduce the implicit hourly wage rate to the market wage rate of workers employed under fixed-wage, time-rate contracts. Large farmer-employers gained from this reduction in wages under the guise of fulfilling the traditional obligations of the village elite which is expected to share work and income with poorer members of the same community. The net effect of this process, however, was to reduce the share of wages in agricultural income and to increase the share of land rent.

The growing poverty and inequality of this village is not unique in South and Southeast Asia. Further, this will likely continue for some time. This is because the fall in population growth rates that occurred during the 1970s was not matched by declines in growth rates of the labor force (see Table 3). Instead, growth rates of the labor force rose as the larger infant populations of previous decades entered the labor force. Growth rates of the labor force are, thus, likely to remain high for some time. This is evident from the relatively large percentage of the population of developing Asia that has not yet reached working age, and from the fact that the working-age population's share in the total population of Asian developing countries is much smaller than in the industrialized countries (see Table 3).

Despite very rapid expansion in industrial output, increases in industrial employment have been too small to absorb the large numbers of entrants to the industrial labor force from the dominant agriculture sector. This is partly because the industrial sector is still small relative to the size of the national economy, and partly because of the capital-intensive, labor-saving bias of industrial technology imported from developed countries. The increment of population unable to find productive employment in agriculture and industry tends to flow into urban slums. This is reflected in the pathological growth of the informal urban services sector occurring in many Asian developing countries. Indeed, a large portion of the decrease in agriculture's share in the total labor force in developing Asia has been absorbed by the urban services sector (see Table 3). Thus, rural villages and urban slums tend to absorb what Karl Marx called the "reserve army of unemployed" industrial labor that prevents real wages from rising.

One might argue that the growing poverty and inequality in South and Southeast Asia is a transitory phenomenon, that it will disappear on the rising portion of the Kuznets U-curve as the economic development process makes income distribution more equal. But the real concern here is whether cumulative frustration in the rural sector will result in social unrest of a degree sufficient to induce capital flight that would jeopardize industrialization and economic growth before society reaches the rising portion of the curve. It is therefore probably not a coincidence that the Spanish legacy of highly skewed income distribution in the Philippines is overlaid with political unrest and economic stagnation.

Table 3: **Changes in the Population and Labor Force in Selected Countries**

Country	Annual Population Growth Rate (%)		Annual Growth Rate of Labor Force (%)		Percentage of Population of Working Age (15-64 years)	Percentage of Labor Force in					
						Agriculture		Industry		Services	
	1960-1970	1973-1984	1960-1970	1973-1984	1984	1960	1980	1960	1980	1960	1980
Developing Asia											
India	2.3	2.3	1.5	2.1	56	74	70	11	13	15	17
Indonesia	2.0	2.3	1.7	2.3	56	75	57	8	13	17	30
Malaysia	2.8	2.4	2.8	3.2	58	63	42	12	19	25	39
Philippines	3.0	2.7	2.2	3.1	56	61	52	15	16	24	33
Sri Lanka	2.4	1.8	2.1	2.1	60	56	53	14	14	30	33
Thailand	3.0	2.2	2.0	3.0	59	84	70	4	10	12	20
Newly Industrializing											
Brazil	2.9	2.3	2.5	3.9	58	52	31	15	27	33	42
Republic of Korea	2.5	1.5	3.0	2.7	64	66	36	9	27	25	37
Mexico	3.3	2.9	2.8	3.2	53	55	37	20	29	25	34
Industrial Market Economies											
Average	1.0	0.7	1.2	1.2	67	18	7	38	35	44	58
Japan	1.0	0.9	1.9	1.1	68	33	11	30	34	37	55

Source: World Bank, *World Development Report 1982, 1983, 1984* and *1986* (New York: Oxford University Press).

Assault on Poverty

Can the situation be improved? The answer seems simple: if the core of the problem is the population pressure that reduces the return to labor relative to the return to land and capital, then maximum effort must be made to expand the demand for labor. Two obvious target areas in this regard are agriculture and small-scale and medium-scale industries.

The experience of Japan and the Republic of Korea suggests that development of labor-intensive, small-scale industries is the most effective way of achieving the dual goals of growth and equity. Even today, Japan's industrial strength is to a large extent based on small-scale industries. In order to foster labor-intensive, small-scale industries, it is necessary to correct the intervention policies designed to protect capital-intensive, large-scale industries so that the labor-intensive industries can benefit from their comparative advantage. Perhaps, the poor economic growth performance of South Asia relative to that of East and Southeast Asia might, at least in part, be explained by excessive government intervention and regulation of private economic activity. The government must support small-scale industries by providing training services for workers and management as well as information services relating to both new technologies and market conditions. As standard welfare economics suggests, it would be better for the government to specialize in the provision of public goods such as information and to leave resource allocation to the market. This proposition is reinforced by recent developments in the theory of neoclassical political economy.[3]

Since agriculture remains the dominant sector in most developing economies in South and Southeast Asia, unemployment and underemployment problems in these countries cannot be solved without increasing the labor absorptive capacity of this sector. Thus, the development of land-saving and labor-using technologies such as more intensive cropping systems combined with higher yielding varieties is the key to achieving both growth and equity in agriculture when labor is in surplus, as the East Asian experience shows. A precondition to the introduction of such technologies is the development of irrigation systems. The need for government provision of public goods such as irrigation infrastructure and agricultural research and extension services is even greater for agriculture than for industry because of the very small scale of peasant farms in Asia. Of course, such efforts should not be limited to irrigable lowland areas. Development of soil-conserving agro-forestry management systems in hills and mountains and of drought-resistant varieties and water-conserving practices in arid and semi-arid areas are also vital to increasing rural employment and incomes.

The effectiveness of public investment in irrigation and agricultural research in counteracting the problem of poverty and inequality is best illustrated by comparing the village referred to earlier with another village also located in West Java.[4] In the first village, agricultural technology was stagnant because no improvement in irrigation systems occurred in recent years and no high-yielding varieties suitable to its environment was made available. Gains in rice yields were therefore insignificant. The increase in the labor force relative to available land resulted in declines in the economic return to labor. The real wage rate declined, inducing the substitution of hand hoeing for animal ploughing, and the income share of labor decreased relative to that of land. This dismal process graphically illustrates the Ricardian trap of economic stagnation with its attendant poverty and inequality that is the consequence of population pressure on limited land resources and constant technology.

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[3] T.N. Srinivasan, "Neoclassical Political Economy: The State and Economic Development", *Asian Development Review*, vol. 3, no. 2 (1985), pp. 38-58.

In the second village, dramatic improvements in irrigation systems occurred because the village was included in a government irrigation project, and also because modern high-yielding varieties were introduced by an experiment station located nearby. Both the double-cropping ratio and the average yield per hectare of crop area increased. Labor demand increased and the real wage rate rose, despite a large inflow of migrant labor and farm efforts to substitute animal power for human labor. The relative income share of labor did not decline, and the income of laborers increased absolutely if not relative to that of the farmers. These two case studies clearly show that growing poverty and inequality tend to result when technological progress fails to overcome the decreasing return to labor resulting from growing population pressure.

This contrasts sharply with the commonly held view that there is a trade-off between growth and equity in development in agriculture due to the nature of the "green revolution". The logic is that since green revolution technology is essentially technology transfer from developed countries to developing countries, in its original form the technology reflects developed country factor endowments. This tends to favor large farmers with better access to information and credit since they have better access to imported agrochemicals and new varieties. As subsistence farmers are discriminated against, green revolution technology allows the profits of large farmers to more easily enlarge their holdings by buying the farms of smaller non-adopters. It is also argued that the technology induces mechanization, which reduces both employment opportunities and wages of the landless population.[5]

However, the empirical evidence which has accumulated during the past two decades refutes this argument. In general, the new technology is widely dispersed among farmers and shows little correlation with farm size and the system of land tenure in areas where reasonably good irrigation is available. Further, its effect on employment has been positive. This is evidenced by significant increases in real wage rates in Punjab and other parts of north India where the new technology was introduced widely at a time when real wage rates were constant or declining in other parts of India where the diffusion of green revolution technology was limited.[6]

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[4] Hayami and Kikuchi, *op.cit.*, Chapter 9.

[5] For example, see Harry M. Cleaver, "The Contradictions of the Green Revolution", ***American Economic Review***, vol. 62 (May 1972), pp. 177-188; Francie R. Frankel, ***India's Green Revolution: Economic Gains and Political Costs*** (Princeton: Princeton University Press, 1971); and Keith Griffin, ***The Political Economy of Agrarian Change: An Essay on the Green Revolution*** (Cambridge, Mass.: Harvard University Press, 1974).

Such observations, together with the two case studies cited earlier, suggest that persistent rural poverty and inequality in developing Asia have resulted not from the green revolution, but from insufficient efforts to develop and diffuse the new agricultural technologies. This strongly supports the view that the way to escape the Ricardian trap resulting from population pressure on land is to concentrate on developing land-saving and labor-using technologies that increase demand for labor faster than the supply of labor is increasing, and food supply more rapidly than demand for it is increasing. Thus, there is no trade-off between growth and equity. Rather, if growth is not enhanced, equity is impaired.

Clearly, there must be no slackening of efforts in agricultural development in those Asian developing countries that have already achieved self-sufficiency in major food cereals. The success of the green revolution in increasing rice and wheat production in tropical Asia during the past two decades has been based on a backlog of technological potential which has accumulated in developed countries in the temperate zone and which can be easily transferred to tropical developing countries through relatively simple adaptive research.[7] It has also been based on large investments in irrigation infrastructure which were induced by relatively high food prices during the mid-1970s.[8] However, the backlog of technological potential has shrunk. To sustain growth in food output at a rate sufficient to meet growing demand, greater public investment in agricultural research, extension and irrigation infrastructure will be necessary. Indeed, the rice self-sufficiency achieved by the Philippines in 1978 has proved to be ephemeral as that country slipped back into being a net rice importer in 1984. Likewise, the rice self-sufficiency in Indonesia which was supported by the diffusion of rice varieties resistant to the brown planthopper bio-type II is now faltering as a brown planthopper of a new bio-type has emerged. If national governments and international aid agencies are misguided by the temporary foodgrain glut and slacken their agricultural development efforts, it is very likely that the developing economies of Asia will be caught in the Ricardian trap.

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[6] Hayami and Kikuchi, *op. cit.*, Chapter 3; and Yujiro Hayami and Vernon W. Ruttan, ***Agricultural Development: An International Perspective***, revised edition (Baltimore and London: Johns Hopkins University Press, 1985), Chapter II.

[7] Hayami and Ruttan, *op. cit.*

[8] For the price-induced fluctuations in irrigation investments, see Yujiro Hayami and Masao Kikuchi, "Investment Inducements to Public Infrastructure: Irrigation in the Philippines", ***Review of Economics and Statistics***, vol. 60 (February 1978), pp. 70-77.

The Scope for Redistributive Policies

It is important to recognize that government regulations and institutional reforms aimed at preventing widening income disparities without attacking the cause of these disparities often prove to be counterproductive to achieving the very equity that these policies seek to promote. What would have occurred, for example, if the "ceblokan" contract cited earlier had been banned because of its apparent "exploitive" role of reducing the implicit wage rate for hired laborers? Given the fall in market wage rates due to changes in labor demand and supply conditions, employer-farmers would have abandoned their traditional output-sharing contract with neighbors in the same community and would have begun to employ laborers at a fixed daily wage. The shift from a patron-client relation in the rural community to an impersonal market relation would have increased labor transactions costs, especially the cost of supervising the work of wage laborers. This could have encouraged adoption of labor-saving techniques and discouraged substitution of hired labor for family labor and would have resulted in reducing both the employment and wages of landless laborers.

In fact, in my research, I have encountered a large number of cases in which government regulations and reforms intended to aid poor farmers have instead resulted in equity losses to the poor. These include land reform regulations such as rent control which resulted in the eviction of tenants, minimum wage laws which induced a shift away from labor-intensive crops such as rice to labor-saving crops such as coconut, and usury laws which increased the effective rate of interest paid by the poor by an amount sufficient to compensate private moneylenders for increased risk, while the rich received a disproportionate share of subsidized institutional credit through their influence with government agencies. It is easy to point out loopholes in these laws and regulations and to advocate a stronger political will on the part of the government as a means of closing these loopholes. The real problem, however, is the economic and social conditions in developing countries that allow these loopholes to exist.

The success of drastic redistributive land reforms in Japan in the years following World War II is often cited, and these reforms held up as a model for present-day Asian developing countries. However, major differences in socioeconomic conditions severely limit the likelihood of reproducing the post-World War II experience of Japan in South and Southeast Asia today. Japan's reform was executed under the authority of occupation forces of the United States. Equally important was the huge amount of data and administrative experience with land ownership and tenure systems which had accumulated since long before World War II. In addition, Japanese tenants had already learned how to organize themselves into cooperative and tenant union movements. The critical difference, however, is the specific economic conditions that have preserved the results of these reforms. In Japan, rapid expansion of non-agricultural employment has resulted in reduced population pressure on land. Thus, the agricultural labor force has declined absolutely and real wage rates have risen. If population pressure had continued on a scale similar to that currently being experienced in South and Southeast Asia, the results of land reforms would have been seriously undermined by such developments as illegal tenancy arrangements similar to those now observed in Philippine villages.

This is not to say that equity-oriented redistributive policies and reforms are unnecessary or undesirable. Rather that simply importing redistributive policies from developed countries without recognizing the need for adapting them to local social and institutional conditions is often counterproductive, not only in regard to the efficiency goal but also in terms of the equity goal itself.

A classic example is land reform in the Philippines, which is now a hotly debated political issue. Since long before the Aquino regime, Philippine land reform programs have attempted to: (i) redistribute land through government land purchases from landlords whose landholdings exceeded a government specified retention limit and to sell the land to tenants; and (ii) redistribute income from land in favor of tenants by means of rent control and regulations relating to forms of tenancy (especially the prohibition of share tenancy). These programs are similar to those tried in other countries, including Japan.

Because the land redistribution program under the Marcos regime affected only tenanted land, the incentive system facing landlords encouraged them to evict tenants and to cultivate their land themselves. Due to the inherent difficulty of supervising hired wage laborers in spatially dispersed and ecologically diverse farm operations, the quantity of labor per hectare employed and hence agricultural output and labor income per hectare are usually higher on small family farms than on large farms using hired labor.[9] Thus, exempting land under direct landlord administration tended to reduce the quantity of labor per hectare to a level below the optimum. This, in turn, reduced the income of farm laborers.

Further, since the program affected only land sown to rice and corn, landlords were given the incentive to sow other crops, often at the expense of both efficiency and equity. For example, many farmers planted labor-saving crops such as coconut on rice land which clearly had the potential for producing higher incomes and absorbing greater amounts of labor. In addition, regulations relating to tenancy contracts discouraged large landholders from subdividing their land and renting it out in small parcels. This reduced both social product and income to labor.

Land reform programs that create conflict between intensive land utilization and equitable redistribution of land and income are based on two erroneous assumptions: (i) that scale economies in agricultural production are especially great in commercial crops such as sugar; and (ii) that share tenancy itself leads to inefficiencies in resource allocation.

In regard to the first assumption, recent studies have shown that while increasing returns to scale in agricultural production tend to prevail in high-wage economies that demand large-scale machinery for the purpose of saving labor, agriculture in low-wage developing economies is generally characterized by constant or even decreasing returns to scale.[10] It has also been found that share tenancy can achieve the same degree of efficiency as fixed-rent leasehold tenancy, and that share tenancy can even be more beneficial for tenants because of its risk-sharing nature and landlord-tenant credit relationships.[11]

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[9] A large number of case studies show higher levels of labor input and yield per hectare in small rather than large farms. For example, see Albert Berry and William Cline, *Agrarian Structure and Productivity in Developing Countries* (Baltimore and London: Johns Hopkins University Press, 1979).

For the land reform program in the Philippines to achieve its intended goal of greater equity, it would have to be redesigned in a way that promotes rather than jeopardizes intensive use of land in regard to the quantity of labor used per hectare since this is critical in counteracting the growing population pressure on land in that country. A possible redesign of the Philippine land reform program might contain three main elements outlined below.[12]

First, a ceiling must be imposed on the size of the landholdings, irrespective of the crop grown or tenure status. This would limit the size of farm under direct landlord administration. The ceiling should be announced along with a notice that landholdings larger than the ceiling will be confiscated and only a modest amount of compensation paid at the end of a sufficiently long transition period. The government should try to take measures that encourage landlords to sell excess land directly to smallholders within the transition period without involving government agencies in the sale. Special long-term credit programs could be instituted to further reduce the cost of acquiring land by the poor.

Second, for facilitating more intensive use of land, mobilizing funds for government purchase of landholdings in excess of the ceiling after the transition period, and for mobilizing funds for subsidized credit to poor farmers for purchase of land within the transition period, a progressive land tax according to the size of holding should be instituted. A higher land tax for large holders would encourage them to use land more intensively so as to raise sufficient revenue to pay the tax. This would also provide a disincentive to holding land for the sake of hoarding or speculation. As a result, the supply of land on the market would increase and the selling price would decrease. Big landlords will find it advantageous to subdivide their landholdings into small parcels and to rent them to tenants who would use the land more intensively than would a large landholder who operates a large parcel with large numbers of hired labor rather than family labor.

Third, to facilitate subdivision of large holdings into small family farm units, all regulations relating to land tenure contracts, including those specifying tenancy forms and land rent, should be abolished. However, the rights of leaseholders cultivating rice and corn established under the previous land program, including the regulated land rent, should not only be preserved but upgraded to the status of property rights so that the leasehold titles may be sold, mortgaged and rented under subtenancy arrangements.

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[10] Hayami and Ruttan, *op. cit.*, Chapter 6.

[11] Keijiro Otsuka and Yujiro Hayami, "Theories of Share Tenancy: A Critical Survey", *Economic Development and Cultural Change* (forthcoming).

[12] Yujiro Hayami, Ma. Agnes R. Quisumbing and Lourdes S. Adriano, *In Search of a Land Reform Design for the Philippines*, UPLB-HPRP Monograph No. 1 (Los Baños: University of the Philippines at Los Baños Agricultural Policy Research Program, 1987).

The above suggestions are not meant to be specific policy recommendations, but are intended to stimulate discussion and further research. It must be emphasized that whatever the policies for achieving greater equity, they must be based on a sound understanding of the basic economic forces underlying income and asset distribution. Reformist policy based solely on ideological preconceptions or wishful thinking can be highly counterproductive to achieving equity goals. It is also important to recognize that institutions are viable only when they are consistent with traditional societal norms. For example, I have observed that sharecropping tenancy is still widely practised in Philippine villages, even though it is illegal under the land reform laws. This is both because crop-sharing contracts are consistent with the traditional principles of work-sharing and income-sharing in rural communities, and because they offer other advantages such as risk-sharing. Institutional reforms will be rejected if they are not perceived as being fair and legitimate in terms of traditional norms. It is therefore necessary to make use of indigenous community institutions and organizational principles when designing modern development institutions that seek to promote both growth and equity.

In conclusion, there seems to be a wide scope for redistributive policies such as land reform, particularly in the light of the importance of social stability in sustaining the momentum of economic development achieved in the Asian region. However, these policies will not achieve their dual goals of growth and equity unless they are based on a deeper understanding of prevailing social and economic conditions.

Informal Credit Markets in Asian Developing Countries

P. B. Ghate[*]

Informal credit markets form an important part of the financial systems of Asian developing countries, constituting as much as half of rural credit and a significant part of urban credit in many of them. They play a particularly important role in channeling credit to small and poor borrowers in both urban and rural areas, serving to underpin the credit requirements of a large part of total employment, income and output. Moreover, they constitute a major source of working capital for enterprises of all sizes and serve generally to ameliorate inefficiencies in the allocation of credit from the formal sector. However, information about informal credit markets is fragmentary. Much of it is impressionistic, or based on stereotypes. Despite some excellent microeconomic studies, they do not provide us with an understanding at the macroeconomic level of the existing or potential role of informal credit markets in financial and overall development.[1]

This article attempts to identify some of the major issues calling for further investigation of informal credit markets in Asian developing countries and draws on information available in the literature. It first briefly describes some of the salient features of informal credit markets in Asian developing countries. It then discusses the relevant macroeconomic policy concerns of the governments. Finally, it assesses the potential role of these markets in development finance.

Characteristics of Informal Credit Markets

A distinguishing characteristic of the informal financial sector is that it functions outside the purview of regulations imposed on the formal sector in respect of capital, reserve and liquidity requirements, ceilings on lending and deposit rates, mandatory credit targets, and audit and reporting requirements. The flexibility accorded by this absence of regulation, along with smallness of size, with most informal lenders operating in a circumscribed area, or in a specific niche of the market where personal knowledge of borrowers is possible, enables informal lenders to reduce transactions costs (e.g., those relating to loan appraisal, documentation and legal fees) to a minimum, and usually well below that in the formal sector. At the same time, the interest rate flexibility they enjoy enables them to cover fully the opportunity cost of their funds (which, unlike in the formal sector, are entirely unsubsidized) as well as any risk of default that may remain despite their close informational links with borrowers.

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[*] Economist, Economics Office, Asian Development Bank. This article is based on a background paper prepared for an ongoing study of informal credit markets in five Asian developing countries. The study is being conducted by the Asian Development Bank in cooperation with national research institutions. These are Bangladesh Institute of Development Studies, Bangladesh; National Institute of Public Finance and Policy, India; Economic Research Centre, Gadjamada University, Indonesia; Philippine Institute of Development Studies, Philippines; and Thailand Development Research Institute, Thailand. The author is grateful to the participants from these institutions for many of the observations in this article.

[1] See, however, David C. Cole and Yung Chul Park, *Financial Development in Korea, 1945-1978* (Cambridge, Mass.: Harvard University Press, 1983).

The cost of informal sector credit is therefore generally higher than that of formal sector credit. However, informal credit is more easily available to the various categories of borrowers whose credit needs tend to be neglected by the formal sector (for reasons relating to risk, lack of collateral, and the high loan administration cost of small loans). While informal lenders tend to rely on their own funds to a greater extent than lenders in the formal sector, some types of informal lenders also accept deposits, mediating between savers with surplus funds and borrowers who can use them more productively.

Informal lenders usually operate as individuals (e.g., friends and relatives, rural moneylenders, agricultural input dealers and produce traders, pawnbrokers, and urban curb-market brokers) or as groups of individuals organized mutually – as in rotating savings and credit associations (ROSCAs) – (e.g., "chit funds" and informal credit unions). However, in some countries some informal lenders are organized as partnership firms (e.g., "indigenous bankers" in India), or even as companies (e.g., those non-bank financial intermediaries such as informal finance, investment, leasing and hire-purchase companies, which are exempted, to a greater or lesser degree, from central bank controls and which partake of the characteristics of the informal sector). Since informal lenders can be institutions, the dichotomy between institutional and non-institutional credit is misleading, the crucial characteristic being informality and flexibility of operations, which confers on the informal sector its comparative advantage over the formal sector in respect of lower transactions costs.

Size, Structure and Segmentation

Only very tentative estimates of the size of informal credit markets are available, both in absolute terms and relative to corresponding formal credit markets. In Bangladesh the mean estimate of all the major studies reporting on the relative size of the rural informal credit market since 1974 is 63 per cent.[2] In the Philippines non-institutional credit is estimated to have provided 64 per cent to 78 per cent of the total credit granted to agriculture in the late 1970s. A survey in Peninsular Malaysia in 1986 found that 62 per cent of all loans granted to farmers were informal.[3] In the Republic of Korea, as of 1981, the Ministry of Agriculture and Fisheries estimated average outstanding loans of agricultural households at Won 437,000, of which 50 per cent was obtained from informal sources. New loans extended to the agriculture sector in Thailand amounted to around Baht 50 billion annually, of which Baht 26 billion or 52 per cent was provided by the informal market. A similar breakdown between institutional and non-institutional credit has been noted in Indonesia. In India outstanding non-institutional debt in the rural areas declined from 85 per cent to 70 per cent between the All-India Debt and Investment Surveys of 1961/62 and 1971/72. While the share of informal credit has undoubtedly declined since then, with the expansion of the banks in the rural areas, it may still constitute the bulk of rural credit.

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[2] Atiq Rahman, "Informal Credit Markets in Bangladesh: A Study Outline", paper presented for the ongoing study referred to earlier.

India, Republic of Korea and Thailand are among the few countries for which estimates exist of the share of informal credit in urban areas. In India the share is estimated to be at least 30 per cent.[4] In the Republic of Korea the size of the curb market was about 15 per cent of the deposit money bank loans in 1978 but is estimated to have declined since then.[5] In Thailand it is estimated that outstanding deposits with the informal credit market, and loans made by it, constituted about 16.7 per cent and 20.5 per cent, respectively, of total deposits and loans.[6]

Clearly, there is a need to establish more accurately the magnitude of the urban and rural informal credit markets. However, as important perhaps is the need to establish the trends in their size. While theoretically there will always be scope for an informal credit market if it can improve on formal sector transactions costs and mediate funds that would not otherwise have been mediated, financial dualism in the sense of a rigid demarcation between two distinct financial enclaves, the formal and informal, is likely to become less pronounced as the formal sector itself is progressively liberalized, formal sector transactions costs decrease, and capital markets become more perfect. However, the size of these markets is likely to remain significant in Asian developing countries in the medium term. In the shorter term, they may even grow temporarily since the size of these markets depends partly on the degree to which the financial sector is controlled. A useful distinction here is between that part of the informal sector which is in a sense autonomous and historically antedates the formal sector (e.g., indigenous bankers, ROSCAs and pawnbrokers), and that part of it which is "reactive", developing in response to controls over, and deficiencies in, the formal sector (e.g., private finance companies).[7] It is the second component that grows and contracts in a countercyclical manner to regulation and liberalization in the formal sector, as has been documented in the case of the Republic of Korea for the postwar period.[8] In the Philippines the informal rural credit market has made a comeback, although it was largely supplemented by commercial bank credit which peaked in the mid-1970s but which met with large-scale loan repayment problems.[9]

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[3] Martien Van Nieuwkoop, ***Rural Informal Credit in Peninsular Malaysia*** (Kuala Lumpur: Bank Pertanian Malaysia, 1986).

[4] Thomas Timberg and Chandrasekar V. Aiyar, "Informal Credit Markets in India", *Economic and Political Weekly*, Annual Number (February 1980), pp. 279-302.

[5] Cole and Park, *op. cit.*

[6] Duangmanee Vongpradhip, "Urban Unorganized Money Markets in Thailand", paper presented at the SEACEN Seminar on Unorganized Money Markets, Yogyakarta, 20-22 November 1985.

There is, of course, no such thing as *the* informal credit market. Rather there are a number of informal credit markets segmented by variables such as locality, type of lender, and the trade, industry or service being financed. Correlated with these are other variables such as source of funds, use of funds, interest charged, documentary instruments used, source of information on borrowers and ability to impose debt-service discipline. In each country different combinations of variables define the major segments. However, one variable, i.e., the direction of lending, would appear to be particularly important as the basis for identifying relatively homogenous borrower groups and borrower purposes with a view to assessing the existing and potential role of informal credit markets in serving them.

Informal credit has been regarded as providing a relatively higher proportion of the credit requirements of informal enterprises, trade, consumption, working capital, short-term lending, small borrowers and new borrowers. However, it has also become important in organized sector manufacturing, financing large proportions of working capital requirements in India, Republic of Korea and Thailand.[10] In fact, it is estimated that the bulk of urban informal credit in India flows to the organized sector.[11] Moreover, informal credit is constantly developing new and innovative markets. In India, for instance, risky ventures (e.g., the motion-picture industry), or those with a few assets to offer as collateral (e.g., restaurants) or where speed is essential (as in export credit) have become new markets for informal credit. Moreover, there are indications that informal hire-purchase and leasing companies may be an important source of finance for fixed investments (e.g., for secondhand machinery in manufacturing and for transportation assets such as trucks).

In the urban areas indigenous bankers, finance brokers, pawnbrokers, finance corporations and ROSCAs are some of the important suppliers of credit.[12] Lenders commonly encountered in rural credit are: (i) friends, relatives and neighbors; (ii) farmers, other than those included in (i); (iii) landlords; (iv) input dealers, output traders, storekeepers, processors (e.g., rice millers), equipment suppliers and itinerant traders; (v) "professional" moneylenders; (vi) pawnshops; and (vii) ROSCAs. More than 80 per cent of rural borrowers in the Republic of Korea borrow from friends and relatives who are mostly farmers with surplus funds.[13] In Bangladesh friends, relatives and well-to-do neighbors constitute the largest source of lenders, and in the Philippines they provide about one fourth of total rural credit.[14] However, not all credit from this source is "non-commercial" in the sense of being interest-free. In fact, interest rates charged by friends and relatives are often no different from those charged by other lenders, with the personal relationship making the transaction possible by serving as collateral. It has been noted that the bulk of credit in marine fishing villages in Kerala in India is "community credit".[15] Many lenders from within the community are other fishermen with a temporary surplus of funds who become borrowers when necessary. In this sense much community credit may be mutual, although not "non-commercial".

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[7] Anand G. Chandavarkar, "The Informal Financial Sector in Developing Countries: Analysis, Evidence and Policy Implications", paper presented at the SEACEN Seminar on Unorganized Money Markets, Yogyakarta, 20-22 November 1985.

[8] Cole and Park, *op. cit.*

[9] Technical Board for Agricultural Credit, *A Study on the Informal Rural Financial Markets in Three Selected Provinces of the Philippines* (Manila, 1981).

[10] The traditional association of informal credit with trade in some countries may be partly due to the higher incidence of credit controls on trade than on manufacturing. In Thailand and Indonesia, there have been high shares of credit from relatives and friends in starting new businesses. See Alek A. Rozental, *Finance and Development in Thailand* (New York: Praeger Publishing, 1970); and R.H. McLeod, "Finance and Entrepreneurship in the Small-Business Sector in Indonesia", Ph.D. dissertation, Australian National University, 1980.

[11] Timberg and Aiyar, *op. cit.*

Landlord credit (to tenants and sharecroppers) is reported to be declining in India and the Philippines. The major source of interlinked credit and of all rural informal credit in many countries may now be lenders who lend as part of their product market transactions. "Professional" moneylenders seem to be declining, although there is evidence in some countries that salaried employees and professionals are replacing them.

ROSCAs are rural institutions in some countries, urban in others, and both rural and urban in yet others. They are traditional institutions found throughout Asia in a variety of forms.[16] These are referred to as "kye" in the Republic of Korea, "paluwagan" in the Philippines, "arisan" in Indonesia, "pia-hueys" and "chaer" (or share) games in Thailand, and "chit funds" in India. Their common feature is periodic contributions into a common kitty which rotates to every member of the association, the sequence of the rotation being determined by consensus, lottery, or a system of bidding at each round, with the bid (which takes the form of a premium) offered by the highest bidder (the borrower in that round) being distributed as a dividend to the other participants (the lenders in that round).[17] ROSCAs enable some participants to take positions as net borrowers by receiving the kitty in earlier rounds, but paying back more in installments and bid payments in later rounds. Bid payments accrue as "interest" to net lenders, or those who take the kitty in later rounds.

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[12] See Juergen U. Holst, *Savings and Development* (Paris: Economica, 1985); and C.P. Somanathan Nayar, *Finance Corporations: A Study of "Unregulated Banks"* (Madras: Institute for Financial Management and Research, 1982).

[13] Sang Kyung Kwack, Chang Kyu Lee, and Yung Chul Park, *Rural Financial Markets in Korea: Their Growth and Role in Rural Development, 1950-78* (Canada: International Development Research Centre, 1981).

[14] Rahman, *op. cit.;* and Technical Board for Agricultural Credit, *op. cit.*

[15] Jean-Philippe Platteau, Jose Murickan and Etienne Delbar, *Technology, Credit and Indebtedness in Marine Fishing* (Delhi: Hindustan Publishing Corporation, 1985).

[16] F.J.A. Bouman, "The ROSCA: Financial Technology of an Informal Savings and Credit Institution in Developing Economies", *Savings and Development*, vol. 3, no. 4 (1979).

[17] ROSCAs differ in this respect from "pyramid games" where interest payments to earlier depositors are financed fully or partly out of fresh deposits from later depositors, rather than from investment.

ROSCAs possess the advantages of accessibility, flexibility and adaptability, ranging from small neighborhood or workplace-based institutions whose primary attraction is that they are a vehicle for savings to larger, more impersonal organizations which offer a quick means of raising funds urgently for production or consumption. Intermediation costs are reduced to a minimum and generally consist only of what amounts in effect to an interest-free loan to the organizer who takes the entire kitty in the first round. In smaller ROSCAs, where there is enough trust between participants, there may be no organizer at all. There is evidence that ROSCAs form an important part of the informal sector in several Asian developing countries. Contributions to "chit funds" constitute as much as about 20 per cent of the deposits with commercial banks in South India.[18] In Thailand the majority of households are said to participate in one or more "pia hueys" at any given time.[19] One survey indicated that in the squatter settlements concerned, the contributions of those who participated amounted to around 36 per cent of their incomes, and total contributions in all such communities in Bangkok was estimated to be at least $9 million.[20] A survey in the Republic of Korea found that 65 per cent of all rural households participated in "kye", contributions to which amounted to 18 per cent of average rural household income.[21] It was found that in urban areas in Indonesia, almost every woman belonged to several "arisan".[22] ROSCAs may be particularly important as a source of credit in specific sectors such as housing, and for purposes such as the purchase of consumer durables. "Non-rotating" savings and credit associations are the other type of mutual informal institution. Credit unions are examples of this genre. They are widespread in the Philippines and also appear to be fairly common in Bangladesh.

Informal Credit Markets and Macroeconomic Policy

Governments have traditionally been ambivalent in their attitude to the informal credit sector. First, moneylenders have a bad reputation for usury in most countries, and in some of them the alienation of mortgaged land and even debt bondage have been a reality until fairly recent times. Second, as governments have increasingly sought to channel a larger share of credit to priority sectors and categories of borrowers in pursuit of their development objectives, they have looked upon the informal sector with askance, as its lending, which responds to demand conditions, has been directed in part to those sectors accorded low priority by selective credit controls. Third, central banks have regarded the informal sectors as diluting the efficacy of measures adopted in pursuit of global credit and monetary policy. Fourth, central banks tend to feel somewhat frustrated by their inability to ensure depositor security and the same degree of protection against fraud and imprudent management that they can enforce in the formal sector.

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[18] C.P. Somanathan Nayar, *Chit Finance: An Exploratory Study on the Working of Chit Funds* (Bombay: Vora and Co. Publishers, 1973).

[19] Rozental, *op. cit.*

[20] Shlomo Angel, J.H. de Goede, and Ramon Sevilla, "Sharing the Risk of Being Poor: Communal Saving Games in Bangkok", *Journal of the Siam Society*, vol. 66, part 2 (July 1978), pp. 123-145.

[21] Kwack, Lee and Park, *op. cit.*

[22] Clifford Geertz, "The Rotating Credit Association: A 'Middle Rung' in Development", *Economic Development and Cultural Change* (April 1962), pp. 241-263.

It has been pointed out that the high rates of interest often charged by informal lenders do not necessarily represent usury or monopoly profits but partly or entirely the higher opportunity cost of funds and the higher risk premiums and loan administration costs involved in lending to the categories of borrowers catered to. Informal credit markets are often quite competitive, with a large number of lenders. Although some lenders earn information rents, they also forgo part of them in favor of borrowers to the mutual benefit of both parties. Where informal lenders accept deposits (e.g., finance companies, indigenous bankers and some rural moneylenders), higher lending rates usually benefit savers and may increase the total volume of savings in society. In fact, in the case of mutual informal finance, or ROSCAs, interest accrues almost entirely to lenders, the interest rate being simultaneously a lending and borrowing rate. Informal rates have in any case been declining worldwide with the expansion of institutional finance. For those categories of borrowers for whom they are still high, the alternative to credit, albeit at high cost, would be no credit at all. Finally, the existence of monopoly profits must not be assumed, but needs to be demonstrated with respect to particular markets. Once such markets are identified it may be possible to take corrective measures.

In regard to selective credit controls, while credit quotas may be necessary as temporary measures to force formal sector institutions to develop informational links with hitherto neglected borrowers, an attempt to control credit too tightly often creates inefficiencies which the informal sector plays a useful role in rectifying.[23] Moreover, the informal sector continues to pioneer new and innovative uses of productive credit in activities which are too risky for the banks, or for which collateral is not normally available, or in which speed is essential. Ironically, informal credit is often more successful than formal credit in reaching precisely those categories of borrowers (e.g., small and marginal farmers, artisans and urban informal enterprises) that form the target groups for credit quotas.

There is evidence, at least for some countries, that the availability and cost of credit in the informal sector are influenced by monetary policy measures. In order to examine the degree of responsiveness of the informal sector to such measures, it is important to investigate the nature of the interaction between the two sectors. In regard to the objective of ensuring depositor security, there is clearly an optimal degree to which it should be pursued, since the higher risk of lending to informal sector intermediaries is compensated for by higher returns. Thus, it may be possible to lay down adequate disclosure and perhaps capital and liquidity requirements for non-bank financial intermediaries, or registration requirements for "chit funds", without affecting their essential informality. In any case, the incidence of "failure" of informal sector intermediaries must be determined, rather than forming impressions based only on a few highly publicized cases.

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[23] Arvind Virmani, *Nature of Credit Markets in Developing Countries*, Staff Working Paper, no. 524 (Washington, D.C.: World Bank, 1982).

Savings

Whatever the proximate sources of funds for the growth of informal credit markets, they ultimately are: (i) increased savings; (ii) the increased use of a given volume of savings for lending in these markets; (iii) increased money supply, which will accrue first in the formal sector but may be diverted to the informal sector along with (ii); and (iv) decreased demand for money balances, or increases in the velocity of circulation. To what extent do informal credit markets contribute to the total volume of savings, or to domestic resource mobilization? The hypothesis is that by performing the same function of financial intermediation as the banks they stimulate savings by offering lenders a higher return than they would have realized through self-financed investment. Some of the savings mediated by the informal sector would probably have been mediated by the banks in any case in the absence of the informal sector. However, by virtue of their lower transactions costs, and by avoiding the implicit taxation of the formal sector through controls on lending and borrowing rates and the pre-empting of funds at subequilibrium interest rates by the government through reserve requirements, informal credit markets are able to offer better rates.[24] They thereby mediate savings that otherwise would not have been saved at all, or would have gone into lower return self-finance activities and not to the banks, whose interest rates are often set lower than these alternative returns open to informal lenders. Moreover, they induce even very small savers to save amounts that otherwise would have been spent on trivial consumption as evidenced by ROSCAs which, as indicated earlier, are an important vehicle of household savings in a number of countries.

Not all informal sector funds are mediated. While finance companies, indigenous bankers and even some rural moneylenders accept deposits,[25] the bulk of informal finance consists of direct finance where the lender uses his own funds. Examples are the bulk of rural moneylending, "non-commercial" credit among friends and relatives, or lending by traders, marketing middlemen, shopkeepers and agricultural processors who operate primarily in commodity markets but who interlink commodity transactions with credit. Like financial intermediation, direct finance contributes to allocative efficiency by seeking a higher return for funds than would be offered by self-investment. The third category consists of savers and lenders organized mutually in ROSCAs and credit unions. Mutual finance can be considered as intermediation within a limited group of people, although credit unions lend also to non-members. All three categories of lending qualify as savings as long as they do not finance current consumption.

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[24] Allan Roe, "Some Theory Concerning the Role and Failings of Financial Intermediation in Less Developed Countries", in *Capital Market Imperfections and Economic Development*, Staff Working Paper, no. 338 (Washington, D.C.: World Bank, 1979), pp. 48-87.

[25] In addition, although brokers do not accept deposits, they mediate by definition.

Consumption Credit

This is not to say, however, that some types of consumption credit are any less essential, or "productive", than credit that finances investment. It seems possible to distinguish between at least four categories of consumption lending, that related to: (i) subsistence, emergencies (including medical expenditures) and other essential purposes; (ii) housing, education and purposes such as emigration which are in a sense "productive consumption"; (iii) the purchase of consumer durables; and (iv) lavish, ostentatious or conspicuous consumption.[26] The unsavory reputation informal credit has acquired for usury is due to the fact that moneylenders have historically exploited the extremely high marginal utilities and highly inelastic demand schedules for credit of the first kind, often financing permanent dissavings, leading to asset sales on the part of borrowers. However, the credit needs themselves are essential, and there is a need to devise alternative ways of meeting them through formal credit, or more importantly to obviate them through agricultural growth and development generally, and through rural health and social insurance programs.

The demand for credit in categories (ii), (iii) and (iv), unlike that in (i), probably increases with income levels. One study detected an inverted U-shaped curve for basic consumption credit in category (i), but found total consumption credit and indebtedness to rise with asset and income levels, with housing becoming the major consumption purpose.[27] Whether total consumption credit increases or decreases overall will depend on which effect predominates. What is and could be the role of the informal sector in meeting credit needs under (ii) and (iii)? Several studies have noted the role of ROSCAs in financing housing expenditures.[28] Informal sector financing of migration to the Middle East countries has been noted in Bangladesh, India, Philippines and Thailand. The purchase of consumer durables through money obtained from ROSCAs is a major reason for joining ROSCAs in India, Republic of Korea and Thailand, and this may be the cheapest way for participants, many of them poor, to finance such items. Moneylenders have indeed financed expenditures under category (iv), and this has been one of the reasons for placing restrictions on moneylending in South Asia in the past. Tax-evaded income (or "black money") appears to have taken on this role in some countries. However, the point remains that not all consumption expenditure (and perhaps only a small part of it) is "unproductive". Nevertheless, to the extent informal credit partly finances consumption, its role in increasing welfare will be somewhat different from savings that finance investment.

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[26] The last two categories overlap. Ceremonial expenditure does not necessarily belong to (iv), some of it being socially decreed and therefore essential, or part of (i).

[27] Platteau, Murickan and Delbar, *op. cit.*

[28] J. Van der Harst, "Factors Affecting Housing Improvement in Low-Income Communities, Karachi, Pakistan", *Ekistics*, vol. 30, no. 235 (1974); and William Keyes, "Approaches to Financing of Unconventional Housing, Informal Systems of Financing", paper submitted at the Regional Seminar on Financing of Low-Income Housing, Asian Development Bank, February 1983.

Allocative Efficiency

To what extent do informal credit markets contribute to overall allocative efficiency? To the extent resources mobilized by these markets, additive or otherwise, go to small borrowers (small entrepreneurs, small farmers) whose financing suffers from high transactions costs that place them beyond the profitable reach of the formal sector, and who exhibit higher marginal returns to incremental credit, both efficiency and equity objectives are served. However, it may also be true that much informal sector lending goes to sectors where private returns are extremely high but social returns low (e.g., speculation in land, a not uncommon use of informal sector funds). Indeed, private returns in a number of activities may be high precisely because of credit controls in the formal sector, imposed in furtherance of social objectives. However, there are also likely to be a number of other areas (such as working capital finance for industry starved of funds in some countries) where both private and social returns are extremely high.

Thus, any assessment of the efficiency role of the informal sector must take into account the divergence between private and social returns. Moreover, it must take into account that not only the overall size of the informal sector but also its inefficiency ameliorative role will depend on the extent to which the formal sector is repressed. This efficiency contribution will itself consist of two parts: (i) its ameliorative contribution, which in a sense is a second best solution to the inefficiencies that stem from too tightly or inappropriately controlled a formal sector, the "best" solution being liberalization itself; and (ii) its net additive contribution which would prevail as a result of its inherently greater operational efficiency, even in the absence of formal sector controls. To address some of these issues greater knowledge about the direction of informal sector lending by functional purpose is required.

Linkages

A complicating factor that will have to be taken into account is the interlinkage between the two sectors. Thus, to the extent formal sector financial institutions tap informal sector intermediaries for funds, the use of some of the funds mobilized by the informal sector will be no different from that of formal sector credit. Examples of flows from each of the three types of informal lenders (those mediating, those using their own funds, and mutual entities) are: (i) commercial banks in the Republic of Korea are reported to have channeled funds from informal lenders by seeking deposits from them and using the deposit to make a loan to a borrower designated by the informal lender (the private lender eliminates the risk of default and receives a premium directly from the borrower, and the attraction for the bank is that it increases its market share);[29] (ii) moneylenders in Indonesia are reported to have lent money to village level cooperatives in financial trouble, to enable them to continue stocking fertilizers; and (iii) some banks in India have been known to organize "chit funds" themselves, obtaining access to the kitty that goes to the organizer in the first round, earning the organizer's commission in subsequent rounds, and attracting participants as regular depositors.

In the reverse direction, funds flow from the formal to the informal sector, with the same implications deriving from different investment and consumption shares and allocative efficiency discussed above. Examples of flows to each of the three types of informal lenders are: (i) In India, until recently, the banks used to provide rediscount facilities to "indigenous" bankers, and moneylenders who lend on the security of gold replenish their funds by pledging their gold with the banks. In the Philippines and Thailand, financial "wholesalers" borrow from the formal sector and "retail" informally. (ii) Malaysia and the Philippines have experimented with schemes to use input and output dealers to onlend informally. In fact, a great deal of trade credit originating in the formal sector is being lent informally. A study in India showed that 80 per cent of all fertilizer dealers extended credit, 41 per cent of their total financial resources were deployed in credit sales, and most of them had overdraft facilities with the banks.[30] (iii) In Thailand, it was estimated that 49 per cent of the funds of ROSCA business was from commercial banks and finance companies.[31] It is important, therefore, to understand the channels and mechanisms through which the two sectors are linked and the importance of the various flows.

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[29] Cole and Park, *op. cit.*

[30] Barbara Harriss, "Money and Commodities: Their Interaction in a Rural Indian Setting", in *Rural Financial Markets in Developing Countries: Their Use and Abuse*, ed. J.D. Von Pische, Dale W. Adams, and Gordon Donald (Washington, D.C.: World Bank, 1983), pp. 233-241.

[31] Vongpradhip, *op. cit.*

between them, and fishermen managed to find other fish merchants to take over their debt in the event of a dispute.

In contrast to the cases of credit being used to facilitate product transactions, there are those where the product transactions enable the credit transaction. It has been pointed out that the reason for marketing ties between farmers and particular middlemen in Thailand must be sought in factors other than the latter's credit operations.[56] Usually, it is the technology of the crop production or of processing that enables the middleman to assume control over the marketing operations of farmers. It is only when this control is assured that middlemen will be willing to extend credit to farmers. If the trader enjoys monopsony power, he may be in a position to make monopolistic profits on credit transactions too (although as in the case of labor contracts, the real interest rate may be disguised in the product price differential). Two further reasons have been emphasized for non-specialization, namely, the reduced costs and risks of administering joint activities and the countercyclicality of traders' and farmers' cash-flows which make for a natural symbiotic credit relationship.[57] In such cases, it is conceivable that traders may actually pass on to borrowers part of the reduced costs of information and default risk, instead of capturing all the information rent themselves.

Thus, there are two major questions which need to be addressed. The first is the extent to which credit is in fact interlinked with land, labor and product transactions, and whether the interlinkage is growing or breaking down, or taking different forms. The second is whether the dearth of and control over credit is used to obtain more favorable terms in the other markets, or whether the existence of contracts in the other markets is an enabling condition for credit transactions, serving to increase the availability of credit, some of it on terms which pass on to the borrower the advantage of lower transactions costs and risk premia. The answers will vary depending on how scarce a good credit is, and when scarce whether greater profits are to be made out of the credit transaction or transactions in other markets. The conclusion of the study of technology and credit in marine fishing in Kerala, India is that the incidence of interlinked contracts encompassing the sphere of credit is bound to decline in areas where growth is rapid and credit becomes less scarce.[58] However, it is likely that economies of shared cost in administering joint activities, along with the countercyclicality of cash flows between farmers and traders, may take over as factors that continue to sustain interlinkage even where credit is relatively abundant.

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[56] Ammar Siamwalla, "Farmers and Middlemen: Some Aspects of Marketing in Thailand", *Economic and Social Bulletin for Asia and the Pacific* (June 1978).

[57] Long, *op. cit.*

[58] Platteau, Murickan and Delbar, *op. cit.*

fishing villages of Kerala, which still use traditional technology, consumption loans are given by fishing craft owner-employers to crew members on the understanding that they need not be repaid as long as the crew member continues to work for that employer.[53] The motivation for the loans, apart from maintaining good relations with the crew members, is to ensure a dependable supply of labor, much as in the case of similar loans in agriculture where the timeliness of operations is becoming increasingly important with a more crowded cropping calendar. Such tying down of crew members does not create permanent relations of attachment, but does slow down labor mobility. The loans are all interest-free, although owner-employers may have to borrow at 36 per cent per annum (the dominant rate in the area) to raise the funds. In the cases above, credit is the cause and basis of the tying or attachment of laborers to particular employers. However, cases of consumption loans which do not entail such obligations on the part of employees are as common. In such cases, credit is made possible by the employment contract which serves as a kind of collateral.

In regard to interlinkage between credit and product markets there have been cases of credit being used to secure favorable terms in product transactions and also those in which it appears to have been the consequence and not the cause of the marketing tie-up. Thus, trader-moneylenders often buy output at predetermined but lower than market prices in lieu of advancing production or consumption credit before harvest time. It has been shown that moneylending by rubber dealers may be one of the critical sources of monopsony power in the marketing of rubber in Malaysia.[54] In Punjab, India where interlinkage between marketing and credit is extensive, there is some evidence of barriers to the entry of new commission agents and the exercise of market power by cartels of commission agents despite the relative strength of the cooperatives which supply a little less than half of total production credit. However, the motivation for interlinkage is to ensure a higher market share and higher income through commission fees. The marketing tie-up automatically ensures first claim on the farmer's resources, and the time invested in securing the tie-up has little opportunity cost before the harvest comes in (when the commission agent gets busy) and funds from the sale of grain on own-account trade are lying idle. However, even in competitive product (or input) markets, traders may use credit to ensure a steady stream of purchases (or sales) as found in south India, except that in this case the advantage may accrue as much to the crop sellers (or input buyers) especially if the traders have access to cheaper bank credit which they can pass on to their clients.[55] In the case of the marine fishing study in Kerala, India, it was found that while malpractices by fish merchants were not unknown during the auctioning of the catch, there was also a fair degree of competition

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[53] Platteau, Murickan and Delbar, *op. cit.*

[54] C.R. Wharton, "Marketing, Merchandising and Moneylending: A Note on Middleman Monopsony in Malaya", *Malayan Economic Review* (October 1962), pp. 24-44.

[55] Harriss, *op. cit.*

Depositor Security

As noted earlier, prudential concerns form one of the major motivations for placing restrictions on the informal sector. The informal sector no doubt experiences its share of "failures" occasioned by fraud and imprudent management. From time to time, a major scandal attracts public attention. Yet the informal sector relies much more than the formal sector on mutual trust between borrowers, lenders and depositors, and on self-regulation among lenders. It would be instructive, therefore, to attempt to assess what the incidence of such practices really is, and the extent to which they contribute to overall loss rates experienced by depositors (or by contributors to ROSCAs). Further, do other depositors receive as a result higher returns than have to be paid by other intermediaries (with self-regulation keeping the "lemons" among them from driving out the rest)? What is the extent, if any, to which restrictions can be imposed on the operations of informal lenders in the interest of depositor security (e.g., minimal disclosure and perhaps capital and liquidity requirements for non-bank financial intermediaries, or registration requirements for "chit funds") without affecting their essential informality?

It should be clear from the foregoing that the savings mobilization, allocative efficiency, equity, monetary policy and prudential implications of informal credit markets are complex, and need to be investigated carefully. In many countries there is legislation bearing on the informal sector, including usury laws, restrictions on the purposes for which moneylenders can lend, restrictions on deposit taking, debt moratoria and registration requirements. It should be recognized, however, that there are important trade-offs between different objectives towards informal credit markets (e.g., between restrictions on deposit taking imposed in furtherance of selective credit control and prudential concerns, on the one hand, and the role of mobilization of savings by informal credit markets, on the other), and that conscious decisions regarding these need to be taken if an "optimal" regulatory environment towards the informal sector is to be instituted in keeping with a country's broad policy objectives.

Informal Credit Markets and Development Finance

The issues discussed so far relate to the role of the informal sector as part of the financial system, and in that sense are primarily macroeconomic. However, in recent years, there has also been a growing interest on the part of governments and international financial institutions in informal credit markets for their possible role in the expansion of development finance. From this "operational" point of view, there are essentially two complementary approaches to the informal sector. In those parts of it where monopolistic conditions prevail, the formal sector could continue to reduce interest rates by offering more effective competition, perhaps by adopting some of the informal sector's own practices,

Interaction with Formal Credit and Implications for Monetary Policy

In view of data limitations there has been a dearth of empirically tested models on the relationship between the price and quantum of credit in the formal and informal credit markets. One of the few models relates to India, which finds that a restrictive credit policy in the formal sector creates excess demand for funds which spills over to the informal sector and also bids up the cost of funds in the informal sector.[32] Thus, monetary policy is effective in restricting the total supply of credit, and not just the supply of credit in the formal sector. Another study also found some evidence that bank interest rates influence with a lag the "bazaar" rate, or the rate at which the bills of small traders are discounted by indigenous bankers.[33] In regard to the first-mentioned model, it has been argued that the two markets are virtually segmented and the presence of highly elastic supplies of "black" liquidity in the economy swamps any weak upward pressure on interest rates transmitted from the formal sector.[34] While agreeing that informal credit markets are not insulated from at least the indirect impact of aggregative credit controls, another study suggests that the impact is likely to be stronger on the availability rather than the price of informal credit given the semi-monopolistic position of lenders.[35] Most of the studies, however, suggest that the formal and informal sectors are substitutes, rather than being complementary to each other, with expansion of one market taking place at the expense of the other.[36]

The most likely hypothesis is that the two sectors are substitutes over a range of credit needs that occupy the middle range of a spectrum of credit markets and purposes. Within this range they impinge on each other's share of the market, depending on lending and borrowing rates in each sector. At both ends of the spectrum, however, each occupies a number of markets which cannot be served by the other and which are therefore complementary. Thus, long-term finance for fixed capital in the large-scale sector is provided only by the formal sector. On the other hand, there are a large number of credit purposes that can only be met by the informal sector.

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[32] Shankar Acharya and Srinivasa Madhur, "Informal Credit Markets and Black Money: Do They Frustrate Monetary Policy?", *Economic and Political Weekly*, vol. 18, no. 41 (October 1983), pp. 1751-1756.

[33] Subrata Ghatak, "Rural Interest Rates in the Indian Economy", *Journal of Development Studies*, vol. 11, no. 3 (April 1975), pp. 190-201.

[34] K. Sundaram and V. Pandit, "Informal Credit Markets, Black Money and Monetary Policy: Some Analytical and Empirical Issues", *Economic and Political Weekly*, vol. 19, no. 16 (April 1984), pp. 675-682.

[35] Chandavarkar, *op. cit.*

[36] For further investigations and discussion, see Harriss, *op. cit.*; Sweder van Wijnbergen, *Interest Rate Management in Developing Countries, Theory and Simulation Results for South Korea*, Staff Working Paper, no. 593 (Washington, D.C.: World Bank, 1983); and John Malcolm Dowling, *Domestic Resource Mobilization Through Financial Development: Korea* (Manila: Asian Development Bank, 1984).

Promoting Links with the Informal Sector

Having considered interlinkage as one of the more important mechanisms through which the informal sector reduces its transactions costs and risk premia, the second of the two operational approaches identified earlier, i.e., the promotion of links between the formal and the informal sectors, may now be addressed. The rationale of this approach, as noted earlier, is to operate through the informal sector in those areas and segments where competitive conditions prevail, taking advantage of its lower transactions costs to "retail" credit. In effect, the approach is the co-opting of the informal sector, without destroying its essential informality. This approach would also seek to strengthen and expand the existing linkages between the two sectors. In particular, it would encourage the use of agricultural input suppliers (e.g., fertilizer and pesticide dealers) and output purchasers and commission agents (e.g., paddy traders, cotton traders, fruit and vegetable traders, fish merchants, rice millers, tobacco curers) to take advantage of the interlinkage between credit and commodity transactions as a means of reducing transactions costs and risk premia. A precondition is the absence of oligopolistic or oligopsonistic conditions among input and output dealers. However, the greater availability of formal sector refinancing might itself induce greater competition in such markets.

Some countries have already experimented with schemes to use input and output dealers to onlend informally.[59] In some countries financial "wholesalers" borrow from banks and retail informally. This is usually not done openly; "supervised" credit programs lend only directly to the ultimate user of funds in an attempt to control their use, an attempt made somewhat difficult because of the fungibility of funds. However, if informal lenders can provide funds to small borrowers more cheaply, it may be desirable to enable them to do so openly, subject perhaps to the setting up of suitable mechanisms to monitor onlending rates and ensure that there is sufficient competition to prevent such lenders from taking advantage of access to cheaper institutional credit to make abnormal profits. There appears to be a good case for vigorous pilot project experimentation to test this approach.

To conclude, informal credit markets are an important part of the financial system in Asian developing countries. While the individual loans they deal in may be relatively small, in terms of total turnover these markets may equal or even exceed loan volume in the formal sector. For most small and poor borrowers, informal credit markets are likely to remain the only source of finance in the medium term. A systematic investigation of the many relevant policy and operational issues is necessary to provide the factual and analytical support for an optimal policy and regulatory environment. Such an investigation might also show how informal credit markets, with all their strengths and weaknesses, can be utilized in the development process.

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[59] Thus, Bank Pertanian in Malaysia is reported to have a scheme under which about 200 tobacco curers are given loans to onlend to about 180 farmers each.

Urbanization and Spatial Development in the Asian and Pacific Region: Trends and Issues

Ernesto M. Pernia*

The spatial dimension of development became a major concern in developing countries in the mid-1960s. A combination of factors brought this about, including the acceleration of both population growth and rural-urban migration, growing employment and income distribution problems, the tendency of growth in some regions to lag behind that in others, and the phenomenon known as core-periphery polarization. Further, there has been an increasing realization that urbanization and the spatial concentration of economic activity are directly related to the distribution of the benefits of development and the satisfaction of human needs, since both people and resources have specific locations. Because of such constraints as friction of space, market segmentation, inadequate information and imperfect mobility, the access to resources and services or to the benefits of development in general continues to be patently uneven. The development experience of countries in the Asian and Pacific region and elsewhere indicates that there is no spontaneous smoothing mechanism built in the economic growth process or that if such a mechanism exists, it operates at a painfully slow pace.

The need for policy intervention in spatial and urban concerns has been expressed by several Asian and Pacific governments. For instance, of 23 Asian and Pacific developing country governments included in a 1978 United Nations survey, only one (Singapore) perceived its spatial population distribution "entirely acceptable" and five (Bhutan, Burma, Republic of Korea, Malaysia and Maldives) considered theirs "slightly unacceptable", needing limited intervention. Five governments (Afghanistan, Bangladesh, People's Republic of China, Sri Lanka and Tonga) considered their spatial population distribution "substantially unacceptable", requiring major intervention; and 12 (Fiji, India, Indonesia, Cambodia, Lao People's Democratic Republic, Nepal, Pakistan, Papua New Guinea, Philippines, Thailand, Viet Nam and Western Samoa) regarded their spatial population distribution "extremely unacceptable", requiring radical intervention.[1] Such official perceptions about the seriousness of spatial imbalances and corresponding inclinations to intervene have persisted, according to a follow-up survey in 1983.[2] Not surprisingly, spatial and urban issues have remained in the forefront of the development debate.

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It may be argued, of course, that the perceptions of governments are not always scientifically sound. Also, the results of surveys depend much on the particular individuals interviewed, as the government is not necessarily monolithic. Nevertheless, it would seem that these official perceptions and inclinations (emanating as they do from longitudinal surveys) need to be taken into account in project and program development and certainly in policymaking.

This article reviews the trends and patterns of urbanization and spatial development since 1960 in selected Asian and Pacific developing countries and discusses the main forces underlying the trends.[3] It examines issues such as the speed of urbanization, spatial concentration and appropriate measures to deal with them; the effects of income and differences in sectoral productivity and of population growth; the relative effectiveness of spatial policies; and urban problems and measures to cope with them.[4] It then attempts to preview the likely urbanization trends to the year 2000, highlighting problems associated with rapid urban growth and excessive spatial concentration. Finally, it discusses the various policy approaches to spatial and urban issues.

In analyzing urbanization trends and patterns among countries, it should be borne in mind that official definitions of the term "urban" vary and that the quality of data may be uneven. There are also differences among countries in the definitions of large and small cities or towns. The definitions used here are those of the countries concerned (a practice adopted by the United Nations), since national statistical offices are considered the best judges of what constitutes "metropolitan", "urban" and "rural" areas.

It is important, moreover, to be clear about the distinction between "urbanization" and "urban population growth". According to accepted practice in the literature, "urbanization" is here defined as a rise in the proportion (percentage share) of the total population living in urban places. This connotes a changing balance between rural and urban populations brought about by spatial shifts (migration) of people from rural to urban areas and by differences in the rates of natural increase of the population in the two areas. Hence, *urbanization* —

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[1] United Nations, *World Population Trends and Monitoring Report*, Vol. II (New York, 1980).

[2] United Nations, *World Population Trends, Population and Development Intervention and Population Policies: 1983 Monitoring Report*, Vol. II (New York, 1985).

[3] For purposes of analysis in this discussion, the selected countries are grouped into three categories, viz., low income, middle income and higher income (see Table 1).

[4] The analysis draws on data prepared by United Nations agencies and on studies of urbanization in developing countries. See, for example, Johannes F. Linn, *Cities in the Developing World: Policies for Their Equitable and Efficient Growth* (New York: Oxford University Press, 1983); George S. Tolley and Vinod Thomas, eds., *The Economics of Urbanization and Urban Policies in Developing Countries*, A World Bank Symposium (Washington, D.C., 1987); and R.J. Fuchs, G.W. Jones and E.M. Pernia, eds., *Urbanization and Urban Policies in Pacific Asia* (Boulder and London: Westview Press, 1987).

a structural phenomenon linked to structural economic change — should not be confused with *urban population growth* — a measure of absolute change which refers only to urban areas and has no reference to rural population growth. It is obvious, however, that urbanization and urban population growth are closely related.[5]

Patterns of Urbanization and Spatial Development since 1960

Level and Pace of Urbanization

Compared with the historical experience of present-day developed countries, recent urbanization in developing countries has not been rapid. This is particularly so in the Asian and Pacific region relative to other developing regions of the world. As a result, urbanization levels in this region are not considered high. The level of world urbanization in 1985 was estimated at 42 per cent; in the more developed regions it was 72 per cent and in the less developed regions 32 per cent. In Asia and the Pacific it was estimated at 28 per cent, in Latin America 69 per cent and in Africa 32 per cent. However, in the light of the vastness and heterogeneity of the Asian and Pacific region, the relatively low average level of urbanization does not reflect the wide variation among subregions and countries.

In 1985 only the Republic of Korea had exceeded the 50 per cent urbanization level, with 65 per cent of its population living in urban areas (see Table 1). The 50 per cent level roughly marks the inflection point of the urbanization (logistic) curve, with the 40-60 per cent range representing the phase of fastest urbanization (see Figure). All the other countries were less than 50 per cent urbanized, with Fiji, Malaysia and the Philippines at around 40 per cent. Indonesia and Thailand, among the middle-income countries, and the People's Republic of China, India, Pakistan and Sri Lanka, among the low-income countries, were in the 20-30 per cent range, while Bangladesh and Nepal (low-income countries) and Papua New Guinea (middle-income) were even at lower levels of urbanization. Thus, it appears that while the Republic of Korea is probably now in the deceleration phase of its urbanization process, Fiji, Malaysia and the Philippines are in the early stages of the acceleration phase, and the rest of the countries are farther behind.

This implies that, contrary to common perception, postwar urbanization in the Asian and Pacific developing region has not been very rapid, and that most countries can expect faster urbanization in the years to come. Table 1 shows that the Republic of Korea experienced very rapid urbanization in the 1960s up

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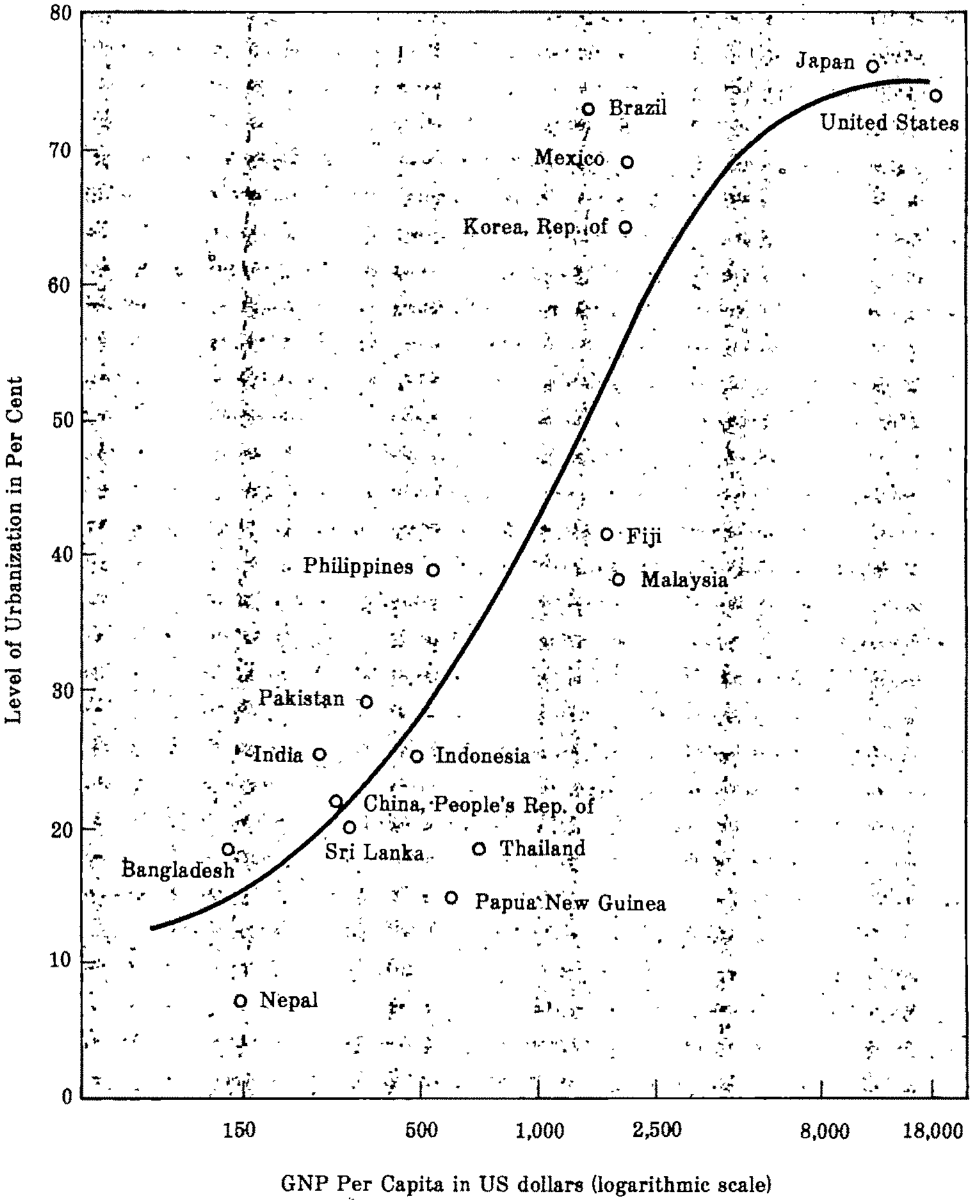
[5] Related terminology used in this article also needs clarification. *Level* of urbanization refers to the proportion (percentage) of the population that is urban at a point in time, while *rate* of urbanization is the pace of change in the level over time. The latter is also to be distinguished from rate of urban growth which refers to the change in the number of people living in urban places relative to the number at the start of a given interval.

Table 1: **Level and Pace of Urbanization in Selected Countries, 1960-1985**
(Percentages)

Country	Level of Urbanization				Annual Change			Urban-Rural Growth Difference		
	1960	1970	1980	1985	1960-1970	1970-1980	1980-1985	1960-1970	1970-1980	1980-1985
Low Income										
Bangladesh	5.1	7.6	10.4	11.9	4.0	3.1	2.7	4.2	3.4	2.9
China, People's Rep. of	19.0	20.1	20.4	20.6	0.6	0.1	0.2	1.7	0.6	0.9
India	18.0	19.8	23.4	25.5	0.9	1.7	1.7	1.2	2.2	2.2
Nepal	3.1	3.9	6.1	7.7	2.3	4.5	4.7	2.4	2.5	3.1
Pakistan	22.1	24.9	28.1	29.8	1.2	1.2	1.2	1.5	1.6	1.7
Sri Lanka	17.9	21.9	21.6	21.1	2.0	-0.1	-0.5	2.5	-0.2	-0.6
Middle Income										
Indonesia	14.6	17.1	22.2	25.3	1.6	2.6	2.6	1.9	3.3	3.5
Papua New Guinea	2.7	9.8	13.1	14.3	13.0	2.9	1.8	13.8	3.2	2.0
Philippines	30.3	33.0	37.4	39.6	0.8	1.2	1.1	1.2	1.9	1.9
Thailand	12.5	13.3	17.3	19.8	0.6	2.6	2.7	0.6	1.0	2.0
Higher Income										
Fiji	29.7	34.8	38.7	41.2	1.6	1.1	1.2	2.3	1.7	2.0
Korea, Rep. of	27.7	40.7	56.9	65.3	3.8	3.3	2.7	5.8	6.5	7.2
Malaysia	25.2	27.0	34.2	38.2	0.7	2.4	2.2	0.9	1.2	2.0

Sources: United Nations, *The Prospects of World Urbanization*, revised as of 1984-85 (New York, 1987), Table A-1; and United Nations, ***Estimates and Projections of Urban, Rural and City Populations, 1950-2025: The 1982 Assessment*** (New York, 1985), Tables A-3 and A-5.

Level of Urbanization and GNP Per Capita (1985)



Sources: Data from World Bank, *World Development Report 1987* (New York: Oxford University Press, 1987), Tables 1 and 33; and Asian Development Bank, *Key Indicators of Developing Member Countries of ADB* (Manila, 1987), Tables 1 and 4.

to the mid-1980s. Bangladesh and Papua New Guinea also had high rates of urbanization in the 1960s and 1970s, mainly because they had very low initial levels, but a deceleration over time was apparent. The other countries experienced accelerating urbanization from the 1960s to the mid-1980s, except the People's Republic of China and Sri Lanka which showed negative urbanization rates in the 1970s up to the early 1980s.

Urban Population Growth and Spatial Concentration

Urban population growth rates in the Asian and Pacific developing countries have not only been high but the corresponding absolute increases have also been quite sizable due to large population bases (see Table 2). This is in contrast to the experience of the developed countries. As a result, the problems associated with urbanization, such as unemployment and underemployment, absolute poverty, inadequate infrastructure, transport and social services, and environmental degradation, have been also on a larger scale.

Urban population growth rates in the selected countries have been at least double the rural growth rates (see Table 2). In countries where the urban-rural growth difference has been large, such as in the Republic of Korea, the pace of urbanization has been phenomenal (see Table 1). Thus, while urban population growth has been rapid, because of high overall population growth rates, the growth of the rural population has been large enough to dampen the rise in urbanization levels in the other countries. This relatively slow pace of urbanization (combined with rapid urban growth) suggests an unrelenting pressure in both urban and rural areas. In contrast, earlier urbanization in present-day developed countries largely relieved rural areas of large numbers of the labor force which were absorbed in urban areas.

The share of net migration in urban growth ranged from 60-74 per cent in Papua New Guinea and Sri Lanka to 40-50 per cent in India, Indonesia, Philippines and Thailand. This indicates that while migration has been a substantial component of urban growth in the former two countries, natural increase in urban areas was a considerable factor in the latter countries. These contrasting relative shares have important implications for the design of population and social services programs and projects in these countries.

A distinctive phenomenon in developing countries, including those in the Asian and Pacific region, is the concentration of population and economic activity in one or a few large cities. This is often referred to as urban primacy and the primate city is typically the national capital. Three measures of primacy are commonly used, viz.: the percentage of urban population in the largest city; the percentage of urban population in cities of more than half a million people; and the four-city index of first-city primacy, i.e., the ratio of the size of the largest city to the combined sizes of the next three largest cities. These indicators suggest that, with few exceptions, there has been an upward trend in urban primacy

Table 2: **Urban and Rural Population and Their Growth Rates in Selected Countries, 1960-1985**

Country	Urban Population ('000)				Annual Growth Rate (%)			Rural Population ('000)				Annual Growth Rate (%)		
	1960	1970	1980	1985	1960-1970	1970-1980	1980-1985	1960	1970	1980	1985	1960-1970	1970-1980	1980-1985
Low Income														
Bangladesh	2,656	5,073	9,189	12,008	6.5	5.9	5.3	48,929	61,597	79,080	89,139	2.3	2.5	2.4
China, People's Rep. of	112,115	159,977	203,677	223,680	3.6	2.4	1.9	555,206	668,916	799,127	839,425	1.9	1.8	1.0
India	77,460	108,907	161,426	194,186	3.4	3.9	3.7	354,003	442,415	527,581	566,990	2.2	1.8	1.4
Nepal	292	450	730	950	4.3	4.8	5.3	9,112	11,039	13,937	15,532	1.9	2.3	2.2
Pakistan	11,073	16,354	24,462	30,291	3.9	4.0	4.3	39,020	49,352	62,711	71,406	2.3	2.4	2.6
Sri Lanka	1,772	2,736	3,196	3,461	4.3	1.5	1.6	8,117	9,778	11,623	12,943	1.9	1.7	2.1
Middle Income														
Indonesia	14,032	20,534	33,514	41,771	3.8	4.9	4.4	82,162	99,746	117,444	123,117	1.9	1.6	0.9
Papua New Guinea	51	237	422	527	15.4	5.8	4.4	1,869	2,182	2,810	3,169	1.5	2.5	2.4
Philippines	8,454	12,380	18,052	21,681	3.8	3.8	3.7	19,450	25,160	30,265	33,028	2.6	1.8	1.7
Thailand	3,362	4,807	6,676	8,062	3.6	3.3	3.8	23,505	31,563	39,779	43,508	2.9	2.3	1.8
Higher Income														
Fiji	117	181	244	282	4.4	3.0	2.9	277	339	386	403	2.0	1.3	0.9
Korea, Rep. of	6,929	12,995	21,678	26,708	6.3	5.1	4.2	18,074	18,928	16,446	14,163	0.5	-1.4	-3.0
Malaysia	2,069	2,932	4,077	4,897	3.5	3.3	3.7	6,136	7,931	9,793	10,654	2.6	2.1	1.7

Source: United Nations, ***Estimates and Projections of Urban, Rural and City Populations, 1950-2025: The 1982 Assessment*** (New York, 1985), Tables A-3 and A-5.

in the Asian and Pacific developing countries over the past two decades (see Table 3).

Thailand has the highest spatial concentration in the region (and probably in the world), with over two thirds of its urban population and a major share of overall economic activity situated in Bangkok. Other countries with high spatial concentrations are Bangladesh (30 per cent), Republic of Korea (41 per cent) and the Philippines (30 per cent). On the other hand, countries with low spatial concentrations are the People's Republic of China and India (both at 6 per cent), undoubtedly because of their huge geographic sizes. Countries that have shown deconcentration are Nepal (from 41 per cent in 1960 to 27 per cent in 1980) and Sri Lanka (from 28 per cent in 1960 to 16 per cent in 1980).

Table 3: **Indicators of Urban Concentration in Selected Countries, 1960-1980**

	Percent of Urban Population in				**Four-City Index of First-City Primacy**	
	Largest City		**Cities over 500,000**			
Country	**1960**	**1980**	**1960**	**1980**	**1960**	**1980**
Low Income						
Bangladesh	20	30	20	51	0.8	1.2
China, People's Rep. of	6	6	42	45	0.7	0.7
India	7	6	26	39	0.7	0.5
Nepal	41	27	0	0	..	..
Pakistan	20	21	33	51	0.9	1.0
Sri Lanka[a]	28	16	0	16	4.8	2.9
Middle Income						
Indonesia	20	23	34	50	1.1	1.5
Papua New Guinea	..	25	0	0	..	..
Philippines	27	30	27	34	3.5	3.7
Thailand	65	69	65	69	..	..
Higher Income						
Korea, Rep. of	35	41	61	77	1.1	1.5
Malaysia[b]	19	27	0	27	1.0	1.5

.. = not available.

a Two-city index.

b Three-city index.

Sources: United Nations Centre for Human Settlements, *Global Report on Human Settlements 1986* (New York: Oxford University Press, 1987), Tables 1 and 6; World Bank, *World Development Report 1987* (New York: Oxford University Press, 1987), Table 33; and United Nations, *Patterns of Urban and Rural Population Growth* (New York, 1980), Table 48.

Factors Associated with Spatial Development

Income, Sectoral Productivity and Population Growth

There is a well-known general association between the level of gross national product (GNP) per capita and the degree of urbanization, as indicated in the Figure, but income alone does not offer a sufficient explanation.[6] Historical and geographical parameters, internal and international market forces, macroeconomic and sectoral policies having spatial biases, and explicit spatial policies all have direct or indirect associations with spatial development.

In an analysis of 66 low-income and middle-income countries, the relative importance of specific factors were examined to explain the level of urbanization, the pace of urbanization, and the degree of urban concentration.[7] The hypothesized explanatory variables included the per capita income rank of the country, the rate of growth of per capita income, the rate of growth of total population, and dummy variables representing the region in which the country is located.

The results of the analysis showed a high degree of correlation for the level of urbanization, with income rank as the most significant explanatory variable. Total population growth had a significant negative effect, attributable to the negative correlation between income and population growth. The growth of per capita income exhibited a negative, though less significant, marginal effect. This is because countries with high levels of income and urbanization usually have relatively low per capita income growth rates, while those experiencing the most rapid per capita income increases are at the intermediate stages of economic development and urbanization. The strong regional effects imply that individual country circumstances also account for intercountry differences in urbanization levels.

Another study using a similar approach and focusing on 11 Asian developing countries yielded interesting findings.[8] It indicated that: (i) industrialization had a significant positive effect on urbanization, while agricultural growth had a negative effect; (ii) growth in manufacturing had a positive though not a significant effect on urbanization, while total population growth had a significant negative effect; (iii) the initial level of industrialization had a negative effect on the pace of urbanization, implying that urbanization tends to slow down at higher levels of industrialization; (iv) agricultural growth continued to have a significant negative effect, while manufacturing had a strong positive effect; (v) total population growth continued to have a strong negative effect on the pace of urbanization; (vi) manufacturing had a significant positive effect and population growth had an inconsequential negative effect on spatial concentration; and (vii) the degree of openness of the economy had a strong positive effect on spatial concentration.

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[6] Bertrand Renaud, *National Urbanization Policy in Developing Countries* (New York: Oxford University Press, 1981).

[7] Tolley and Thomas, *op. cit.*

[8] Ernesto M. Pernia, "Asian Urbanization and Development: A Comparative View", *Philippine Review of Economics and Business*, vol. 19 (1982), pp. 383-403.

In sum, in addition to manufacturing growth and agricultural development, population growth plays an important role in urbanization. It seems to result in a slowing down of urbanization, though not of urban population growth. Also, agricultural development appears to retard urbanization, because it allows for greater labor absorption in the rural sector. This could be the effect of agricultural growth at low levels of economic development. It is likely that at higher levels, agricultural development would have the reverse effect, as observed, for example, in the experience of industrialized countries. In any case, the negative relationship between agricultural development and urbanization observed in the above study supports the view that agricultural and rural development can reduce migration to the cities. This is an alternative interpretation to the more conventional notion that agricultural development leads to urban migration. The key would seem to be the type of agricultural and rural development, whether labor-absorbing or labor-displacing.

Implicit and Explicit Spatial Policies

The openness of the economy, in addition to manufacturing growth, is a significant determinant of the urban primacy phenomenon in the Asian and Pacific developing countries. The reason behind manufacturing growth seems better known: manufacturing activity has invariably been concentrated in the metropolitan capitals in many countries. The important role of the openness of the economy suggests that concentration in the metropolis is a response to the need to be near the principal seaport and airport and also to institutions and organizations such as those that provide licenses, foreign exchange, credit and tax incentives.[9]

Spatial concentration thus appears to be partly an unintended consequence of macroeconomic and sectoral policies largely expressed in the import-substitution industrialization strategies of the postwar period. On the demand side, import-substitution products find markets among urban consumers in the capital city. To the economic policies favoring urban centers may be added urban-biased infrastructure policy and agricultural policy that have tended to effectively penalize the rural sector and subsidize urban consumers. Furthermore, the national capital's long-established advantage as the center of education and culture, communications, and modern facilities and services explains a good deal of its strength and attractiveness.

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[9] Location in the metropolis is considered strategic for both domestic and foreign investments. See R.J. Fuchs and E.M. Pernia, "External Economic Forces and National Spatial Development: Japanese Direct Investment in Pacific Asia", in Fuchs, Jones and Pernia, *op. cit.*, pp. 88-111; and E.M. Pernia and A.N. Herrin, "Factors Influencing the Choice of Location: Local and Foreign Firms in the Philippines", Economics Office Report, no. 39 (Manila: Asian Development Bank, February 1987).

In the latter half of the 1960s, there was a growing awareness of urban and spatial concerns in many countries in the Asian and Pacific region, as evidenced in their national development plans. Explicit policy measures to pursue decentralization have taken various forms, including investment incentives for lagging regions, controls on industrial location in and migration to the metropolitan area, integrated area development, export processing zones, and urban growth centers. Evaluations of these measures, however, suggest that controls on location were fundamentally unsound, investment incentives largely ill-conceived, the choice of location for export processing zones was based more on political rather than on economic considerations, integrated area development projects take more time than anticipated to have a perceptible impact, and sufficient resources may not have been allocated to the designated regional growth centers.[10]

There is evidence that macroeconomic policies, including trade, industrial and agricultural policies referred to earlier, had a strong bias in favor of the capital metropolis since the 1950s and early 1960s, rendering dispersal policies from the late 1960s to the 1980s largely ineffective. While this may have been the case in many countries in the region, there have been some notable exceptions, viz., the People's Republic of China, India, Malaysia and Sri Lanka.

Towards the Year 2000

The foregoing analysis of factors associated with spatial development is essentially consistent with the underlying theory. Economic development is reflected in rising levels of productivity which result in structural changes with accompanying spatial shifts. Labor migration occurs in response to changing demands in the agriculture and non-agriculture sectors. Since the demand for agricultural output is relatively inelastic while that for non-agricultural products is relatively elastic, the flow of labor is from rural to urban areas, given rising levels of productivity in agriculture. Improvement in productivity is then translated into increases in income which, in turn, result in a changing composition of demand in favor of non-agricultural goods. Apart from this market mechanism underlying the spatial process, other factors such as government policies also affect the nature and pace of the process.

Factors Influencing Spatial Change

In the future, urbanization and spatial development will be similarly shaped by trends in economic development, government policies and demographic behavior. These factors can be elaborated to include technological and productivity changes; biological and chemical innovations in agriculture; farm mechanization or irrigation; investment, interest rate and exchange rate policies; foreign capital flows; foreign trade; urban bias in government subsidies, taxes and services; explicit spatial policies; and population growth.[11] Their effects complement or conflict with the fundamental mechanisms of the market. They influence the occupational transition from the primary to the secondary and tertiary sectors through effects on agricultural and non-agricultural productivity and prices. They also impinge on the link between the occupational and urbanization transitions in terms of the corresponding spatial implications.

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[10] Pernia and Herrin, *op. cit.*

It is interesting to note how various types of agricultural development strategies appear to have different spatial effects. Farm mechanization, for example, by raising the marginal productivity of labor results in labor displacement.[12] In contrast, by raising both land productivity and average and marginal labor productivities, irrigation tends to retain labor. Hence, for a given increment in output, irrigation would retain a bigger work force in agriculture than would mechanization.[13]

An analysis of urban trends based on a computable general equilibrium model shows that terms of trade between agricultural and manufactured goods, productivity changes and technical progress (economywide total factor productivity growth) are important determinants.[14] Unbalanced sectoral productivity increases seem to be the most potent factor. Furthermore, urban growth appears to be sensitive to employment conditions and rents in urban squatter housing, with higher rents tending to dampen urban growth. On the whole, trade policy in the industrial countries and price policy in developing countries have strong influences on future urban trends.

Given the multiplicity of factors associated with spatial development and the diversity among the Asian and Pacific developing countries, it is difficult to make solidly based projections. It is possible, however, to make projections that are simple extrapolations of recent trends. The projections of the United Nations, presented below, are perhaps the best available, but it is important to bear in mind that these trends are subject to the operation of the various factors discussed earlier.

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[11] See Lee-Jay Cho and John G. Bauer, "Population Growth and Urbanization: What Does the Future Hold?" in Fuchs, Jones and Pernia, *op. cit.*, pp. 15-87.

[12] Lyn Squire, as cited in Cho and Bauer, *op. cit.*, p. 31.

[13] Samuel H. Preston, as referred to in Cho and Bauer, *op. cit.*, p. 31. The results of cross-country analysis discussed earlier showing a negative influence of agricultural growth on urbanization would suggest that past agricultural growth in Asian developing countries was largely brought about less by farm mechanization and more by irrigation or other labor-absorbing technology.

[14] Allen C. Kelley and Jeffrey C. Williamson, *What Drives Third World City Growth? A Dynamic General Equilibrium Approach* (Princeton: Princeton University Press, 1984).

Future Trends

While urbanization levels in the Asian and Pacific region will continue their steady rise, the levels by the year 2000 will remain relatively low. It is projected that the urbanization level in the world will be about 47 per cent in the year 2000; the developed regions will be 74 per cent urban and the developing regions 39 per cent. The urbanization level of the Asian and Pacific region will be 35 per cent, below the average for the developing regions, and well below that for Latin America at 77 per cent.

In the low-income Asian and Pacific countries included in this article, the urbanization levels by the year 2000 are expected to range from about 14 per cent in Nepal to about 38 per cent in Pakistan (see Table 4). In the middle-income countries, the levels are projected to range from about 20 per cent in Papua New Guinea to 49 per cent in the Philippines. In higher income countries, the levels are projected to range from about 51 per cent in Fiji to about 80 per cent in the Republic of Korea. As indicated in the Figure, the pace of urbanization in the Asian and Pacific developing countries, except in the Republic of Korea, is expected to quicken between 1985 and 2000, especially in the People's Republic of China, Malaysia, Sri Lanka and Thailand. In contrast, the Republic of Korea is expected to experience a deceleration.

The urban population growth is expected to remain generally high. In most of the low-income countries, it is projected to further accelerate, in the middle-income countries it is expected to remain steady, and in the higher income countries a deceleration is forecast (see Table 5). Urban growth during 1985-2000 appears even more staggering when expressed as absolute increases and compared with the preceding 15-year period 1970-1985 (see Table 5). In India there will be 135 million more urban dwellers over the period 1985-2000 and in the People's Republic of China 110 million. These represent 1.5 and 1.7 times, respectively, the increases in the 15-year period 1970-1985. Pakistan will have an additional 24 million urban inhabitants (1.7 times the preceding increment), while the urban population increases in Bangladesh, Nepal and Sri Lanka will be well over twofold.

Among the middle-income countries, the urban population increase in Thailand is expected to be more than double in 1985-2000 relative to the period 1970-1985. In the other middle-income countries, the increment factor will be at least 1.5 times. In the higher income group, the increment factor of Malaysia is estimated at 1.9, of Fiji at 1.3, and of the Republic of Korea at about 1.

As in the past, another major spatial issue will be the concentration of urban population in one or a few large cities (see Table 6). Although some deconcentration may be expected, the relatively large low-income countries, viz., Bangladesh and Pakistan, are likely to have increased concentrations in the years ahead. Even those countries that are expected to have relatively lower urban concentrations will have what are now known as megacities.

As of 1985 there were 26 cities of 2 million or more people in the low-income

Table 4: **Level and Pace of Urbanization in Selected Countries, 1985-2000**
(Percentages)

Country	Level of Urbanization			Annual Change		Urban-Rural Growth Difference	
	1985	**1990**	**2000**	**1985-1990**	**1990-2000**	**1985-1990**	**1990-2000**
Low Income							
Bangladesh	11.9	13.6	18.3	2.7	3.0	3.2	3.5
China, People's Rep. of	20.6	21.4	25.1	0.8	1.6	1.5	2.3
India	25.5	28.0	34.2	1.9	2.0	2.5	2.9
Nepal	7.7	9.6	14.3	4.4	4.0	3.5	4.0
Pakistan	29.8	32.0	37.8	1.4	1.7	2.1	2.6
Sri Lanka	21.1	21.4	24.2	0.3	1.2	0.3	1.6
Middle Income							
Indonesia	25.3	28.8	36.5	2.6	2.4	3.5	3.5
Papua New Guinea	14.3	15.8	20.2	2.1	2.4	2.4	3.0
Philippines	39.6	42.4	49.0	1.4	1.4	2.2	2.7
Thailand	19.8	22.6	29.4	2.6	2.6	2.6	3.6
Higher Income							
Fiji	41.2	44.0	50.7	1.3	1.4	2.3	2.7
Korea, Rep. of	65.3	71.1	79.6	1.7	1.1	6.2	4.7
Malaysia	38.2	42.3	50.4	2.0	1.7	2.5	3.1

Sources: United Nations, *The Prospects of World Urbanization*, revised as of 1984-85 (New York, 1987), Table A-1; and United Nations, *Estimates and Projections of Urban, Rural and City Populations, 1950-2025: The 1982 Assessment* (New York, 1985), Tables A-3 and A-5.

Table 5: **Urban Population and Growth Rate, 1985-2000 and Absolute Increase, 1970-2000 in Selected Countries**

Country	Urban Population ('000)			Annual Growth Rate (Percentages)		Absolute Increase ('000)		Ratio of Increases
	1985	1990	2000	1985-1990	1990-2000	1970-1985	1985-2000	(1985-2000 to 1970-1985)
Low Income								
Bangladesh	12,008	15,711	26,617	5.4	5.3	6,935	14,609	2.1
China, People's Rep. of	223,680	249,595	333,669	2.2	2.9	63,703	109,989	1.7
India	194,186	232,947	329,148	3.6	3.5	85,279	134,962	1.6
Nepal	950	1,253	2,260	5.5	5.9	500	1,310	2.6
Pakistan	30,291	36,229	53,908	3.6	4.0	13,937	23,617	1.7
Sri Lanka	3,461	3,845	5,047	2.1	2.7	725	1,586	2.2
Middle Income								
Indonesia	41,771	51,358	74,559	4.1	3.7	21,237	32,788	1.5
Papua New Guinea	527	665	1,069	4.6	4.7	290	542	1.9
Philippines	21,681	26,016	36,661	3.6	3.4	9,301	14,980	1.6
Thailand	8,062	9,806	15,329	3.9	4.5	3,255	7,267	2.2
Higher Income								
Fiji	282	324	416	2.8	2.5	101	134	1.3
Korea, Rep. of	26,708	31,576	39,848	3.3	2.3	13,713	13,140	1.0
Malaysia	4,897	5,935	8,581	3.8	3.7	1,965	3,684	1.9

Source: United Nations, *Estimates and Projections of Urban, Rural and City Populations, 1950-2025: The 1982 Assessment* (New York, 1985), Table A-3.

Table 6: **Indicators of Urban Concentration in Selected Countries, 1980-2000**

	Percentage of Urban Population in				**Four-City Index of First-City Primacy**	
	Largest City		**Cities over 500,000**			
Country	**1980**	**2000**	**1980**	**2000**	**1980**	**2000**
Low Income						
Bangladesh	30	42	51	67	1.2	1.3
China, People's Rep. of	6	4	45	49	0.7	0.7
India	6	5	39	39	0.5	0.4
Nepal	27	22	0	22	..	..
Pakistan	21	23	51	52	1.0	0.9
Sri Lanka[a]	16	15	16	15	1.9	1.7
Middle Income						
Indonesia	23	17	50	45	1.5	1.5
Papua New Guinea	25	..	0	..	..	..
Philippines	30	31	34	38	3.7	3.4
Thailand	69	56	69	56	..	..
Higher Income						
Korea, Rep. of	41	34	77	68	1.5	1.4
Malaysia	27	25	27	25	1.2	1.2

.. = not available.

a Three-city index.

Sources: United Nations Centre for Human Settlements, *Global Report on Human Settlements 1986* (New York: Oxford University Press, 1987), Tables 1 and 6; World Bank, *World Development Report 1987* (New York: Oxford University Press, 1987), Table 33; and United Nations, *Patterns of Urban and Rural Population Growth* (New York, 1980), Table 48.

countries, 5 in the middle-income countries and 2 in the higher income countries (see Table 7). Of the 26 cities in the low-income countries, one was in Bangladesh, 14 in the People's Republic of China, nine in India and two in Pakistan. In the middle-income countries, three were in Indonesia and one each in the Philippines and Thailand. In the higher income countries, all such cities were in the Republic of Korea. The growth of these cities is expected to continue although at a slower pace.

By the year 2000, about half of the world's 25 largest cities are expected to be in the Asian developing countries (see Table 8). These will range in population size from about 10 million in Tianjin to 16 million in Calcutta. Three of these cities are expected to be in the People's Republic of China and three in India. The situation in the year 2000 will be a long way from that in 1950 when only five of the world's biggest cities were in developing Asia (Shanghai, Beijing and

Table 7: **Cities of Over Two Million Population as of 1985 and Annual Growth Rate in Selected Countries**

City	Population (million)			Rate of Growth (%)	
	1970	1985	2000	1970-1985	1985-2000
Low Income					
India					
Calcutta	7.1	10.9	16.5	2.9	2.7
Greater Bombay	6.0	10.1	16.0	3.5	3.1
Delhi[a]	3.6	7.4	13.2	4.7	3.9
Madras	3.1	5.2	8.1	3.4	3.0
Bangalore	1.7	4.0	8.0	5.8	4.6
Ahmedabad	1.7	3.1	5.3	3.9	3.5
Hyderabad	1.8	3.1	5.1	3.7	3.3
Poona	1.1	2.1	3.7	4.2	3.6
Kanpur	1.3	2.0	3.2	3.0	3.0
China, People's Rep. of					
Shanghai	11.4	12.0	14.3	0.3	1.2
Beijing[a]	8.3	9.2	11.2	0.7	1.2
Tianjin	6.9	7.9	9.7	0.9	1.4
Shenyang	3.1	4.1	5.3	1.7	1.8
Wuhan	2.7	3.4	4.3	1.4	1.7
Guangzhou	2.5	3.3	4.4	1.8	1.9
Chongqing	2.5	2.7	3.3	0.6	1.4
Chengdu	1.6	2.7	3.9	3.5	2.5
Harbin	2.0	2.6	3.5	1.8	1.9
Taibei	1.5	2.5	3.7	3.4	2.6
Zibo	1.3	2.4	3.7	4.0	2.8
Xian	1.7	2.3	3.0	1.8	1.9
Liupanshui	1.7	2.2	2.9	1.8	1.9
Nanjing	1.8	2.1	2.7	1.2	1.7
Bangladesh					
Dhaka[a]	1.5	4.9	11.2	7.7	5.5
Pakistan					
Karachi	3.1	6.7	12.0	5.1	3.9
Lahore	2.0	3.7	6.2	4.2	3.4
Middle Income					
Indonesia					
Jakarta[a]	4.5	7.9	13.2	3.8	3.4
Surabaja	1.5	2.4	3.7	2.9	2.9
Medan	0.6	2.1	5.4	7.9	6.3
Philippines					
Manila[a]	3.6	7.0	11.1	4.5	3.0
Thailand					
Bangkok[a]	3.3	6.1	10.7	4.1	3.8
Higher Income					
Korea, Rep. of					
Seoul[a]	5.4	10.3	13.8	4.3	1.9
Pusan	1.8	4.1	6.2	5.3	2.7

a Capital city.

Source: United Nations, *The Prospects of World Urbanization*, revised as of 1984-85 (New York, 1987), Table 6.

Table 8: **Asian Cities among the World's 25 Largest Cities, Ranked by Size and Population**

Year	Rank	City	Country	Population (million)
1960				
	4	Shanghai	China, People's Rep. of	10.7
	6	Beijing	China, People's Rep. of	7.3
	12	Tianjin	China, People's Rep. of	6.0
	14	Calcutta	India	5.5
	19	Greater Bombay	India	4.0
	25	Jakarta	Indonesia	2.8
1980				
	5	Shanghai	China, People's Rep. of	11.8
	8	Calcutta	India	9.5
	12	Beijing	China, People's Rep. of	9.1
	14	Greater Bombay	India	8.5
	15	Seoul	Korea, Rep. of	8.5
	18	Tianjin	China, People's Rep. of	7.7
	21	Jakarta	Indonesia	6.7
	23	Manila	Philippines	6.0
	24	Delhi	India	5.9
2000				
	4	Calcutta	India	16.5
	5	Greater Bombay	India	16.0
	7	Shanghai	China, People's Rep. of	14.3
	8	Seoul	Korea, Rep. of	13.8
	10	Delhi	India	13.2
	13	Jakarta	Indonesia	13.2
	16	Karachi	Pakistan	12.0
	19	Dhaka	Bangladesh	11.2
	20	Beijing	China, People's Rep. of	11.2
	21	Manila	Philippines	11.1
	23	Bangkok	Thailand	10.7
	24	Tianjin	China, People's Rep. of	9.7

Source: United Nations, *Estimates and Projections of Urban, Rural and City Populations, 1950-2025: The 1982 Assessment* (New York, 1985), Table A-12; and United Nations, *The Prospects of World Urbanization*, revised as of 1984-85 (New York, 1987), Table 6.

Tianjin in the People's Republic of China, and Calcutta and Bombay in India). At that time population sizes ranged from 3 million to 10 million. In 1960, of the world's 25 biggest cities, six were in developing Asia. In 1980 there were nine such cities in developing Asia, with populations ranging from 6 million to 12 million.

Concluding Remarks

The trends and patterns of spatial development in the Asian and Pacific countries indicate that the pace of urbanization has been generally slow and its level low by current world standards or compared with the experiences of present-day developed countries. A distinctive feature, however, has been high urban population growth rate, resulting from rapid overall population growth, together with marked urban concentration typically in the capital city due to its spatial comparative advantage reinforced by the biases of macroeconomic and sectoral policies. This situation is likely to continue in the coming years due to the momentum of urban population growth and spatial concentration, as well as the acceleration of the pace of urbanization itself.

Changing spatial patterns, particularly spatial concentration, have been generally considered as a reflection of the underlying forces of development. Nevertheless, there are specific problems associated with spatial imbalances. At the national and regional levels, a lack of functional spatial economic integration has led to regional imbalances and rural backwardness, referred to as "polarization" or "backwash effects". Some development observers have argued that some "parasitism" is involved in that the center draws goods and resources from the hinterland without giving anything in return. Without policy intervention, this phenomenon, it is argued, tends to perpetuate itself, leaving the hinterland continuously worse off.

At the city level, three types of externalities are often identified.[15] First, environmental externalities such as pollution and congestion would imply that city size is larger than optimal in terms of maximizing national or regional income and welfare. Second, protected employment that maintains urban wages above market-clearing levels may make cities larger than otherwise. Third, the attraction of cities through the availability of free or subsidized social services and the benefits of proximity to central government agencies and to educational and cultural institutions tend to promote excessive concentration. Manifestations of these externalities are urban unemployment and poverty, inadequate housing and transportation facilities, insufficient fiscal capacity, and deficient basic social services.[16] These widespread and persistent problems have not escaped the attention of policymakers and administrators. Hence, most governments in the region consider spatial imbalances unacceptable, requiring varying degrees of intervention. However, the nature, extent and timing of intervention remain unclear.

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[15] Tolley and Thomas, *op. cit.*, p. 6.

[16] Some of these problems are discussed at length in Asian Development Bank, *Urban Policy Issues*, Proceedings of the Regional Seminar on Major National Urban Policy Issues (Manila, 1987).

Three types of urbanization policies have been identified in the literature. First, there are spatial policies that are implicit in national economic policies, often offsetting the intended effects of explicit urbanization policies. These implicit policies are frequently industrial and trade policies that protect the manufacturing sector and effectively discriminate against agriculture and other resource-based industries. Import controls, credit allocation, public investment and pricing policies are common examples. There is an emerging consensus that rectifying policy-induced biases toward a more neutral policy regime would result not only in greater overall economic efficiency but also in lower spatial concentration of population and economic activity.

Second, there are explicit dispersal policies that are largely ineffective because of the more potent effects of implicit policies or because they are ill-conceived and poorly implemented. For example, spatial regulations in India intended to favor rural over urban development have helped spawn the urban underground economy. In the Republic of Korea, despite land-use guidelines combined with incentives and disincentives, trade and industrial policies have significantly contributed to the growth of particular cities, such as the capital city. In the Philippines, in spite of locational controls and investment incentives, the majority of new industries have been located in the capital city. Recent studies show that fiscal incentives for industrial location generally are not very effective and are also costly. Access to markets, adequate power and water supply, and communication facilities are more important considerations in determining the location of industries.

Third, urban management policies that directly tackle such problems as congestion, pollution, transport, housing and basic social services are now strongly recommended as part of the solution to the overall urbanization problem. Good internal management of cities and carefully selected and well-conceived regional and rural policies, complemented by more neutral macroeconomic policies, should constitute the general policy package needed to address spatial and urban concerns. Also, given the important role of the demographic factor, population policy should form part of the package. As with most development concerns, the various elements of a policy package must be systematically planned, properly coordinated, and, needless to say, seriously implemented.

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A Note from the Editor

The *Asian Development Review* is part of the Asian Development Bank's effort to play a more broadly based development role in the Asian and Pacific region. In this endeavor, the *Review*, from time to time, focuses on a topic of interest to the region.

The theme of this issue is the role of small and medium industries in economic development. These industries have made substantial contributions to the developing economies of the Asian and Pacific region as in other parts of the world. Their importance in generating employment is generally appreciated but in many countries of this region small and medium industries have also played a leading role in promoting exports, developing entrepreneurship and accelerating industrial growth.

Governments in most developing countries have adopted policies and established institutions for promoting small and medium industries but the experience has been varied. It would be particularly instructive to determine why the small and medium industry sector has been more successful in some countries than in others. The articles in this *Review* present the experiences of some Asian developing countries.

It is hoped that these articles will provide useful insights into the role of this sector in economic development and help in the formulation of sound relevant policies.

ASIAN DEVELOPMENT REVIEW

1988 Vol. 6 No. 2

Small Manufacturing Enterprises and Employment in Developing Countries 1
I.M.D. Little

Institutional Framework for Promoting Small-Scale Industries in India 10
J.C. Sandesara

Small and Medium-Scale Industries in Indonesia 41
R.B. Suhartono

The Development of Small and Medium-Scale Industries in Thailand 70
Medhi Krongkaew

Promoting Small and Medium Industries: The Korean Experience 96
Yeo-Gyeong Yun

Small Manufacturing Enterprises and Employment in Developing Countries

I.M.D. Little*

In the 1970s a number of international institutions, and development activists, became very concerned that growth in developing countries was not reaching the poor. In particular, industrial development was capital intensive and absorbed little of the rapidly increasing labor force. An increased demand for unskilled labor was surely an essential component of any program to alleviate poverty. This concern for employment was soon linked to the advocacy of small-scale enterprises which were widely believed to offer more employment than larger enterprises for any given amount of investment. Some international institutions, including the World Bank, tried to steer more of their loans toward small-scale enterprises; and some developing countries, especially India, intensified measures to support and protect such enterprises.

This article does not question the objectives of a more labor-demanding industrial development. Indeed, the author has long stressed the anomaly that a small minority of people in developing countries work with ever-increasing amounts of capital while the great majority continue to scratch a bare living with a few primitive tools. It does, however, suggest that supply-side interventions – subsidized loans, tax relief, industrial estates, product reservation, etc. – linked to small enterprises are of little or no use in achieving the objective of a more labor-demanding industrial development. This view is derived largely from the author's participation in a World Bank research project on the subject of small manufacturing enterprises in developing countries.[1]

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[1] The principal publications resulting from this research project have been Dennis Anderson and Farida Khambata, *Small Enterprises and Development Policy in the Philippines: A Case Study*, World Bank Staff Working Papers, no. 468 (Washington, D.C., 1981); Dennis Anderson, *Small Industry in Developing Countries: Some Issues*, World Bank Staff Working Papers, no. 518 (Washington, D.C., 1982); Dennis Anderson, "Small Industry in Developing Countries: A Discussion of Issues", *World Development*, vol. 10, no. 11 (1982), pp 913-948; M. Cortes, A. Berry and A. Ishaq, *Success in Small and Medium-Scale Enterprises: The Evidence from Colombia* (Baltimore: Johns Hopkins Press, 1987); Sam P.S. Ho, *Small-Scale Enterprises in Korea and Taiwan*, World Bank Staff Working Papers, no. 384 (Washington, D.C., 1980); Dipak Mazumdar, *The Issue of Small versus Large in the Indian Textile Industry: An Analytical and Historical Survey*, World Bank Staff Working Papers, no. 645 (Washington, D.C., 1984); J.M. Page, *Small Enterprises in African Development: A Survey*, World Bank Staff Working Papers, no. 363 (Washington, D.C., 1979); J.M. Page, "Firm Size and Technical Efficiency: Applications of Production Frontiers to Indian Survey Data", *Journal of Development Economics*, vol. 16 (September-October 1984), pp. 129-152; I.M.D. Little, Dipak Mazumdar and John M. Page, *Small Manufacturing Enterprises: A Comparative Study of India and Other Economies* (New York: Oxford University Press, 1987); and I.M.D. Little, "Small Manufacturing Enterprises in Developing Countries", *The World Bank Economic Review*, vol. 1, no. 2 (1987).

None of these authors, except myself, are in any way committed to the views expressed in the present article. The World Bank research project on which this article largely relies is reported at much greater length in I.M.D. Little, Dipak Mazumdar and John M. Page, *op. cit.*

We have seen that small-scale enterprises were believed to be labor intensive, i.e., they had a low capital-labor ratio. But this alone could not be a sufficient reason for favoring them. Value added cannot be ignored. Indeed, if only capital is scarce, capital productivity is crucial. If small enterprises have lower capital productivity than larger ones, then one should invest in the latter, since more output is obtained. Even if the larger enterprises need employ fewer workers, the employment objective can be met by making them employ workers to do nothing. This is in fact a very common practice in many developing countries: but it is not good practice, for labor almost always and everywhere has some opportunity cost. If not employed wherever it is, it would somehow earn some money and produce something elsewhere, and if possible should not therefore be used to produce nothing. There is no escaping the conclusion that the case for promoting any particular type of enterprise is that it uses factors of production more efficiently, given their social cost, than other types. Proponents of small-scale enterprises on grounds of employment and production must therefore claim that: (i) they are relatively labor intensive; (ii) they have relatively high capital productivity; and (iii) these characteristics represent a more efficient use of capital and labor.

If small firms do turn out to be relatively labor intensive, then this is probably because they face a lower price of labor relative to capital than do larger enterprises. If this relatively low wage is also closer to its relative shadow price, i.e., the relative social cost of labor, then it will follow that small-scale enterprises are employing labor and capital more efficiently from a social point of view, although it is to be expected that labor productivity will be low (but not zero) in such labor-intensive enterprises.

Clearly, the next step is to look at the facts and determine the empirical relationship between size and the three ratios, viz., capital intensity, capital productivity and labor productivity. The expected relationship is that capital intensity and labor productivity rise with size, while capital productivity falls.

Size must next be defined. The most common measure of the size of an establishment or firm is the number of workers. In industrial countries, small-scale commonly means less than 200-300 workers. However, in developing countries, the average establishment size is smaller, and "small" will generally be taken to mean 1-49 workers. Similarly, "medium size" will generally mean 50-199 workers. Size may also be measured by capital employed, and this may for some purposes be a more appropriate measure. It is used for policy purposes in India, but even there size distributions by capital employed are often unobtainable. Both the availability of statistics and the fact that employment size is more easily envisaged make it the dominant measure.

Ideally, capital is measured by its replacement cost. However, this is usually unobtainable, and one has to hope that such measures as are obtainable (often simply the book value) are reasonably unbiased estimates of replacement cost. The number of workers and the amount of labor input can also present difficulties, e.g., the treatment of part-time and family workers. However, the following reported results are stark and robust enough to remain valid in the face of the manifold statistical problems encountered in the empirical research.

First, census material was investigated. For the aggregate of manufacturing, the factor proportions and productivity behaved much as expected, though with some exceptions, especially in the case of capital productivity. For instance, in the case of Japan (census of 1966) the only anomaly was that capital productivity *rose* from the smallest size class (1-9 workers) and peaked in the range 20-49 workers. Turning to developing countries, it can be said that labor productivity and capital intensity rose with size with only a few anomalies.[2] But capital productivity was highly erratic. The latest available Colombian and Korean censuses were examined under the World Bank project. In the case of Colombia (1976 census), capital productivity also behaved erratically but with a tendency to peak in the range 20-99 workers.[3] In the Republic of Korea (1968 census), capital intensity was virtually constant in the range 10-199 workers. Capital productivity was almost constant from 5-49 workers, but then *rose* dramatically before falling again for the largest size groups of 200 workers or more. Firms in the size group 100-199 dominated, i.e., they had both higher labor and higher capital productivity than the smaller size classes. Indeed, compared with the size class 10-19 workers, the larger firms achieved more than double the capital and labor productivity, while there was virtually no difference in the capital-labor ratio.[4] A very similar finding is true for Thailand where firms in the same medium size class (100-199 workers) also virtually dominated all smaller size classes.[5]

It already appears that there is some evidence to suggest that medium size firms may use labor and capital more efficiently than small firms. However, thus far we have considered only manufacturing firms aggregated over all industries. But any such comparison of the economic characteristics of smaller and larger plants averaged over all industries is of very limited interest; and would still be of very limited interest even if it had been found that the expected rise in capital intensity with size, and fall in capital productivity, held good over the whole size range. This is because such a relationship might arise in the aggregate because some industries typically use little capital in small plants with high capital and low labor productivity, and vice versa for other industries, but with little or no regular variation between units of different sizes within industries. If this were the case, then the best way to increase the demand for labor would be to increase the demand for the products of those industries that are typically labor intensive and have high capital productivity. The size of the establishments within each industry would be irrelevant, and supply-side intervention in favor of small enterprises would be equally irrelevant. If in contrast, within particular narrowly defined industries, small units are more labor intensive than large units, and have higher capital productivity, while their products are closely competitive with those of large units, then supply-side intervention in favor of the small would indeed be appropriate. The moral is that disaggregation is essential if any policy conclusions are to be drawn.

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[2] See K. Ohkawa and M. Tajima, *Small-Medium Scale Manufacturing Industry: A Comparative Study of Japan and Developing Nations* (Tokyo: International Development Centre of Japan, 1976). This study covered nine developing countries, but excluded size classes with less than 20 workers.

[3] See M. Cortes, A. Berry and A. Ishaq, *op. cit.*, Chapter 2.

[4] See Sam P.S. Ho, *op. cit.*

[5] Somsak Tambunlertchai and Chesada Loohawenchit, "Labour Intensive and Small-Scale Manufacturing in Thailand", in *The Development of Labour Intensive Industry in ASEAN Countries*, ed. Rashid Amjad (Geneva: International Labour Organisation, Asian Regional Team for Employment Promotion, 1981).

The Korean census (1968) was unique in that results had been published at the four-digit and even five-digit levels of the Standard Industrial Classification. In an analysis of the census, it was found that regularities prevailing in the aggregated statistics rarely carried over to industries defined at the four-digit level.[6] For instance, monotonicity of rising capital intensity with size was found in only two of 160 industries where there were plants in at least four different size categories. More than that would occur by chance, so that it is as if there were something causing irregularity.

The figures certainly do not support the belief that small plants, as measured by numbers employed, are typically labor intensive. The incidence of maximum labor intensity was almost even over the various size classes from 5 to 499 workers, and the highest capital intensity occurred as often in the range from 50 upwards. Capital productivity peaked in the range 50-499 in two thirds of the 160 industries in which there were units in at least four size classes. Both statistical weaknesses and reality doubtless contributed to the turbulence of the disaggregated figures. Capital measures are very unreliable. In this census, capital comprised the book value of owned tangible fixed assets but excluded rented assets. On this definition, total capital used is more likely to be understated for small enterprises than for large ones. Value added is also unreliable, most especially for the smaller size classes, many of which do not keep records. And where records are kept, value added may be falsified to deceive the tax inspector. Turbulence is also present in reality. One enterprise or even a whole size class of enterprises in a particular industry may have a good or bad year for reasons quite unconnected with production functions or normal market conditions.

Statistics for very small units are the most unreliable, and the largest size classes contained few units. For this reason comparisons were made between the size classes 20-49 workers and 100-199 workers. Out of 213 industries in all, 139 had entries in both these two size classes. In 67 cases, capital intensity was lower and capital productivity higher in the larger class. In 40 out of the 67 cases labor productivity was also higher. So, to this extent, the feature of the aggregate figures — non-increasing capital intensity and higher productivities — carried through to disaggregation.

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[6] See Sam P.S. Ho, *op. cit.*, for an analysis of the census.

It should also be noted that interindustry variations in capital intensity were far greater than the average intraindustry variations by size group. The latter seldom varied by a figure of more than three, while the range of the former was over 100.

A simple cost-benefit analysis using actual wages as shadow wages and a 20 per cent rate of return as the shadow price of capital was also made in the study. Out of 138 industries,[7] the peak of the benefit/cost ratio was in the range 50-499 workers in 88 cases, and was spread fairly evenly over this range. Thirty-two industries performed best in the range below 50 workers, of which seven cases were in the class 5-9 workers. Eighteen performed best in the range of 500 workers or more.

Under the World Bank project, in the case of India, factor ratios and productivities were first compared for the 1972 census of Small Scale Industries and the Annual Survey of Industry (averaged over the period 1974-1977). The results were not very favorable to the small-scale firms.[8] Second, inspection of the 1978-79 Annual Survey of Industry showed that the size class 200-499 workers very nearly dominated all other size classes having both higher labor and higher capital productivity. Third, a Reserve Bank of India Survey of small establishments that had been assisted by the commercial banks showed better productivity figures for the larger small (16-20 workers) than the smaller small establishments.[9]

It was also evident from this Reserve Bank of India Survey that if one orders establishments by capital employed (especially when measured by the original value of plant and machinery) rather than the number of workers, then the capital-labor ratios and productivities behave more regularly in the expected manner than when employment is used as the size discriminator. This speaks well for the Indian formula for defining the small (which is in terms of the original value of plant and machinery), but not for the fact that the Annual Survey of Industry does not publish size distributions on this basis. It should further be noted that there is other scattered evidence that the capital-labor ratios and productivities behave more closely in accordance with expectations when size is defined by capital employed rather than by employment.

The results reported thus far give little or no support to those who propose to favor small-scale enterprises on grounds of efficient employment, especially if size is measured by the number of workers. The same conclusion was reached by comparing the same Reserve Bank of India Survey mentioned above with the census sector of the 1976-77 Annual Survey of Industry (which covers factories employing 50 or more workers with the aid of power, or 100 or more without power).[10] Thirty-seven three-digit industries could be compared. In 16 industries the larger Annual Survey of Industry firms dominated the smaller Reserve Bank of India Survey firms. In only one case (edible oils and fats) did the latter dominate the former. An efficiency index, weighting the relative factor productivities by their income shares (averaged over both the Reserve Bank of India Survey and Annual Survey of Industry firms), was also computed. Depending on the measurement of capital used, the Reserve Bank of India Survey firms were less "efficient" in 34 or 35 out of the 37 industries. It was found that the relative inefficiency of small units was least where there was also little difference in the capital-labor ratio. It was concluded: "Evidently, small-scale industries cannot be relied upon to generate a large amount of employment efficiently. Where they have substantial advantage in employment generation, they are relatively inefficient; and where they are efficient, they do not have much advantage in employment generation".[11] Another interesting finding was that of a negative relationship between short-term bank borrowing and efficiency.[12]

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[7] The number was reduced to 138 by excluding industries whose output was prima facie heterogenous and those that did not have establishments in at least four size classes.

[8] See I.M.D. Little, Dipak Mazumdar and John M. Page, *op. cit.*, Table 7.4.

[9] Department of Statistics, Reserve Bank of India, "Survey of Small Industrial Units 1979", *Statistical Report*, vols. 1 and 2 (Bombay, 1979).

It has been suggested that censuses and surveys that use employment as the size discriminator bias results against the small for the following reasons. They are snapshots of a large number of firms each of whose output and employment vary over time. At any one moment, the small size classes will include firms that are having a bad time although they may be quite large in terms of capital or output and employment potential. Further, the small sizes will include new start-ups that have installed much of their equipment but as yet employ few people and have little output. Such firms will appear to be small, capital intensive and inefficient. The point is well taken. And we have seen that when some measure of capital is used as the size discriminator, then results are more in line with expectations and less damning to small units. However, as against this there is the point that measuring by capital biases results in favor of small units. This is because censuses will normally record the written-down book value of capital, which results in an underestimate of the "size" of older enterprises.

Partly because census figures seemed to be of doubtful reliability, and also because it was thought desirable to obtain more information than censuses give, a number of new intensive surveys of narrowly defined industries in India and Colombia were conducted under the World Bank research.[13] In India the surveys included printing, machine tools, soap, shoes, metal castings, powerlooms, and handlooms; and in Colombia metal-working and food processing. These surveys support the evidence from other surveys and from censuses discussed above. In none of the industries was there a monotonic relationship between employment size and capital intensity; and when the distributions were partitioned into size groups, the intragroup variance of factor proportions and productivities was so great that intergroup differences in the means were rarely of statistical significance. Indeed, in only one industry (machine tools) was there a statistically significant difference between the factor productivities of the very small units (less than 10 workers) and those of larger sized firms. Both labor and capital productivity were low in the small units.

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[10] See Bishwanath Goldar, "Relative Efficiency of Modern Small Scale Industries in India", in *Small Scale Enterprises in Industrial Development: The Indian Experience*, ed. K.B. Suri (New Delhi: Sage Publications), 1988, pp. 95-117.

[11] Bishwanath Goldar, *op. cit.*, p. 111.

[12] Bishwanath Goldar, *op. cit.* As Goldar points out, his findings are in this respect and others close to those for the Republic of Korea, see Sam P.S. Ho, *op. cit.*

[13] These surveys are fully reported in I.M.D. Little, Dipak Mazumdar and John M. Page, *op. cit.*; and M. Cortes, A. Berry and A. Ishaq, *op. cit.*

When establishments were ranked by capital (undepreciated book values converted to 1980 prices), the factor proportions and productivities varied with size in a manner that was closer to expectations than when employment was used as the size discriminator. This confirms what has been found in other surveys, as already mentioned. Nevertheless, there were substantial irregularities, and the differences between size groups were frequently insignificant, intragroup variations remaining high.

Before proceeding to a more general discussion of the role of small-scale industries, and of industrial and other policies that affect the size structure of industry, it seems worthwhile drawing a few conclusions from the evidence thus far presented:

(i) The size of an enterprise, as measured by the number of workers, is a poor indicator of anything of economic or social significance.

(ii) Nevertheless, the evidence suggests that technical and social efficiency is most likely to be found in plants in the medium or medium-large range of 50-499 workers.

(iii) Employment has been the most important argument in favor of supply-side interventions to promote small-scale enterprises. But employment size is a poor indicator even of labor intensity, let alone social advantage.

(iv) Size measured by capital employed is a better, but still unreliable, indicator of factor proportions and productivities. An enterprise that subsists with virtually no capital must have high capital productivity. Such enterprises are using traditional methods. They can be quite large in terms of employment. The important distinction between such enterprises and the small modern factory or workshop was made long ago.[14]

(v) Leaving aside traditional manufacturing, which is largely confined to clothing, food processing, and the making of simple utensils, the

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[14] P.N. Dhar and H.F. Lydall, *The Role of Small Enterprises in Indian Economic Development* (Bombay: Asia Publishing House, 1961).

> differences in labor intensity between normally operating firms within narrowly defined industries are small compared to the differences between industries. So changes in the composition of output can do more to increase the demand for labor than interventions designed to alter the plant size structure of particular industries.

The industrial policies, and macroeconomic policies, of developing countries have certainly discriminated against small enterprises. Industrialization has been promoted in three main ways, viz., by regulating trade, by investment incentives, and by directly undertaking public sector investments. The whole strategy of import substitution encourages large-scale capital-intensive industries whether in the public or private sectors, and controls also usually favor large-scale enterprises. The same is true of investment incentives, only India in the last 10-15 years being an exception. Admittedly, most countries have adopted some measures to offset the disadvantages imposed upon small-scale enterprises by their general macroeconomic and industrialization policies. But, with the exception of India, these have been marginal.

However, our account of the facts suggests that a bias against the small is not in itself responsible for the bias against labor-intensive development. The contrasting experiences of India and the Republic of Korea strongly support this suggestion. India has done much to preserve and encourage small-scale enterprises, and its industrial development has been, and remains, highly capital intensive. The Republic of Korea has done very little for the small enterprises, and tiny manufacturing enterprises have almost vanished. Yet its industrial development has been the most labor intensive in the world, at least from around 1960 to the mid-1970s. In the Republic of Korea between 1963 and 1975 manufacturing employment grew by 11 per cent per annum, absorbing over one million persons, 86 per cent of which was accounted for by firms with 100 employees or more in 1963.[15]

One wonders why so many people wrongly think that large size and capital intensity invariably go together. I believe it is because they think in terms of containers — tanks and tankers, ovens, pipes, and furnaces — where the action or value added is within the container, and the few workers are outside. But there are many industries — textiles, clothing, engineering, and assemblies of all kinds — where the main container is the factory itself, and the many workers are inside. In such industries, larger size tends to result in greater labor intensity.

The negative conclusion of this article is that a policy of supply-side interventions in favor of small-scale enterprises will not promote an efficient labor-intensive development. Since the main way in which industrialization can improve the distribution of income is via increasing the demand for labor, one can also say that such interventions will do little or nothing to improve distribution or relieve poverty.

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[15] Sam P.S. Ho, *op. cit.*

The elements of a sound policy, or policy reform, directed toward a more labor-intensive industrial development include the following:

(i) Trade and protectionist policies should be changed to make exporting as profitable as domestic sales. At the margin, exports are more labor intensive than import substitutes, and we have seen that there is much more mileage, so far as employment generation is concerned, in changing the composition of output than changing the size distinction of plants within particular industries.

(ii) Interest rates should not be subsidized. If any limit is placed on interest rates charged by banks and other institutions (and this may be advisable if the banking system is inexperienced and non-competitive), it should be quite high and intended to permit a real rate of at least 20 per cent for the riskier loans (which include those to small enterprises).

(iii) At present, many governments encourage, directly or indirectly, high wages in "organized" industry. Many have also passed labor legislation making it very difficult to sack workers. Such policies strongly encourage capital intensity in the larger enterprises, and generally distort labor markets. They should be abandoned or at least modified.

(iv) Any supply-side industrial promotion measures should disregard and, so far as possible, be neutral between firm or establishment sizes. They should not subsidize or favor the use of capital, as so many do (e.g., low interest rates, tariff waivers on imported capital goods and accelerated depreciation).

Almost all governmental interventions in developing countries which alter prices, directly or indirectly, bias them in favor of capital intensity, and against employment. It is small wonder that policies directed toward a more labor-intensive development can be described as "getting the prices right". But one should add that fiscal and other policies which tend toward a more equal development probably also promote labor demand since relatively poor persons probably demand relatively labor-intensive products. Since labor intensity is itself equalizing there is a virtuous circle here.

Institutional Framework for Promoting Small-Scale Industries in India

J.C. Sandesara*

The institutional framework that a country creates and nurtures for the promotion of a sector such as that of small and medium industries depends upon the perception of the problems of that sector and upon the hope or conviction that it is through, among other things, that framework that progress toward the solution of those problems is possible. Moreover, when the institutions to be created are in the public sector, it is further expected that they serve not only the sectors for which they are created but also the larger good of the society enunciated in the socioeconomic objectives which the country seeks to promote generally.

The case for support either directly by government intervention or through public sector institutions to the small and medium industries sector is made on a variety of, often mutually overlapping, grounds. First, small units are known to be capital-saving in relation to both output and labor, so that the scarce capital resources yield greater income and employment. This feature of small units is consistent with the objectives of rapid growth of national income and promotion of employment pursued by the developing countries. The latter has considerable appeal in these countries, in spite of the low income per person employed in the labor-intensive small units, because of large and growing unemployment, absence of social security for the unemployed and preservation of the traditional skills of the workers.

Second, being more numerous, small units promote greater competition and therefore efficiency than large units. Moreover, large units are often considered as having promoted and aggravated regional imbalances in the distribution of industrial activity, while small units are viewed as purveyors of regional balance. A regionally unbalanced economy is strategically vulnerable and socially and culturally unacceptable.

Third, in multilingual, multicaste, multiclass and barrier-ridden societies, there is a need to diversify the entrepreneurial base by recruiting from among

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the members of the castes, classes and professions which have hitherto contributed poorly to the entrepreneurial resource. Here again, small industry has its own appeal relative to large industry on the ground that the risk per operational unit is small and that it can cater to a large number.

Fourth, the case for support may become stronger when the sector is plagued by multidimensional weaknesses and small industries are numerically substantial in the economy. Although small industries account for a small part of the total national income and employment in developing countries, their production accounts for a substantial part of the total industrial production and for a still greater part of the total industrial employment in these countries.

It is well known that small and medium units in manufacturing enjoy some advantages and suffer from some handicaps relative to large-sized units. It is more so of the small than of the medium units. The advantages of smallness follow from quick decision making by top management, low wage rates and friendly or informal labor and industrial relations. The handicaps arise from many quarters. In a more general way, they may be viewed as related to physical and price factors.

A small unit is technically less efficient in the sense that it uses a larger quantity of inputs, in physical terms, per unit of output than a large unit. Also, a small unit purchases inputs at higher prices and sells outputs at lower prices than a large unit because of four reasons. First, the purchases of raw materials and other inputs by a small unit are in small quantities and are therefore at high prices. Because of the small scale of production, the waste materials cannot be utilized for the manufacture of by-products, resulting, in a way, in a larger consumption of inputs in physical terms per unit of output. Also, when disposed off, the waste materials being in small quantities fetch a low price. Thus, either way, the cost of raw material per unit of output becomes high. Second, small operations make it uneconomical to employ specialized machines as well as a variety of skill functions related to production, purchases, costing, sales and personnel. Third, a small unit finds it difficult to raise adequate funds easily or cheaply, because its inability to offer appropriate security increases the lender's risk and the small size of the loan results in high transaction costs. Fourth, a small unit is not adequately informed of a number of services offered by government and non-government agencies free or at concessional rates.

In practice, the handicaps of small-scale production outweigh the advantages in most branches of manufacturing activity. As a result, the larger units are generally able to pass on a good part of their advantage in the marketplace in the form of lower prices or better quality of their products giving rise to the small industry problem. In many branches of manufacture, small-scale production has disappeared, or exists on the fringe, or is being kept alive by supporting measures. This is true not only of a large number of small units in old manufacturing activities, e.g., food processing, textiles and footwear, but also of units in new manufacturing activities, e.g., engineering, chemicals and electronics.

Although this article is, by and large, an overview of small industries with reference to India, it is hoped that the implications and suggestions have some relevance for countries that have similar problems, goals and institutions. The first part of this article describes the institutional framework for the promotion of small and medium industries in India. The second reviews the working of these institutions. The third assesses the impact of assistance and incentives on firms in the sector. The fourth provides a résumé of the main findings and accounts for them. The fifth part highlights implications of the findings and argues for a fresh approach to the institutional setup and policy framework for this sector.

Institutional Framework

India has developed a most comprehensive network of institutions in the public sector for the promotion of small and, to some extent, medium industries.[1] These institutions cater to the different needs of these industries, and taken together, they have schemes and programs to attend to virtually all types of problems. The components of this institutional framework are at different levels: national, state and district. This is necessitated by: (i) India being a large and diverse country; (ii) industry being a concurrent subject between the central and state governments; and (iii) small industry being geographically widely scattered and dispersed.

The definition of small industry has undergone many changes in India over the years. This sector is generally referred to as village and small industries, and these industries have been grouped under different subsectors for policy formulation and administering assistance programs, and special institutions have been created to attend to them. The subsectors are: "khadi" and village industries, handloom, handicraft, powerloom, sericulture, coir, and small-scale industries.

The khadi and village industries subsector covers handspun handwoven cloth and a number of industries such as bee-keeping, handmade paper, matches, footwear and leather products. The Khadi and Village Industries Commission caters to the interests of these industries. The implementing agency for the programs of these industries is the commission at the center and boards in the states. The handloom subsector uses millspun yarn and weaves it into cloth manually on looms. The handicraft subsector consists of the units and artisans manufacturing artistic products, which are made of materials such as wood, metal and stone. The units in the powerloom subsector use millspun yarn to prepare cloth on power-operated looms. The institutional arrangements are similar for the handloom, handicraft and powerloom subsectors, i.e., in each case there is a board which looks after the interests of the subsector and a development commissioner who is responsible for implementation. The sericulture and coir subsectors cover sericulture and coir and coir products. Their respective boards cater to their interests and are also the implementing agencies.

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[1] For further details and discussion on the institutional framework, see Development Commissioner (Small-Scale Industries), Ministry of Industry, Government of India, *Small Scale Industries in India, Policies, Programmes and Institutional Support* (New Delhi, 1980 and 1983); *Report of the Committee on Credit Facilities for Village and Small Industries* (also known as the Khusro Committee Report) (New Delhi, 1984); and D. Nagaiya, "Small Industry Development in India, Policy Programmes and Institutional Support" (Hyderabad: National Institute of Small Industry Extension Training), mimeographed.

The small-scale industries subsector consists of small industrial units not covered by the other boards, commissions or agencies. A small industry is defined as an industrial unit with investment in plant and machinery (original value) not exceeding Rs 3.5 million, and not exceeding Rs 4.5 million if it is an ancillary unit. Within this subsector, there is a separate category of tiny units. A tiny unit is defined as a unit with investment in plant and machinery (original value) not exceeding Rs 200,000 and located in villages and small towns. The Small-Scale Industries Board is an advisory body and attends to the interests of this subsector. The implementing agency is the Small Industries Development Organization. Powerlooms and small industries are regarded as the modern small-scale industries, and other industries as traditional industries or the decentralized sector. As the focus in this article is on modern small-scale industries, the discussion relates largely to that sector. The relevant institutions may be classified under five headings: (i) national-level agencies; (ii) state-level agencies; (iii) financial institutions; (iv) research laboratories; and (v) associations of entrepreneurs.

At the national level, the All-India Small Scale Industries Board is the apex advisory body. It operates through a number of standing committees on various aspects. The principal institution assisting small industries is the National Small Industries Corporation. The Small-Scale Industries Board acts as a policy-formulating, coordinating and monitoring agency. It also renders technical assistance as may be required by the state governments for preparing schemes for the overall planned operations. It provides a range of extension services through the network of service institutes, branch institutes, extension centers and testing centers.

The primary function of the National Small Industries Corporation is to help small entrepreneurs set up small industries by providing indigenous and imported machinery and equipment on a hire-purchase basis and assist small units in marketing their products. It develops prototypes of machinery for transfer of technology and know-how for commercial production. It also imparts training to workers and entrepreneurs.

At the state level, the Directorate of Industries, the Small Industries Development Corporation and state financial corporations are the major institutions. The Directorate of Industries is the executive agency for the small industries sector. It acts under the overall guidance of the Small Industries Development Corporation and the central institutions associated with various programs of assistance. Its functions include regulatory and development activities. It has an extensive network of field offices in every district of the state, at the district, subdivision and block levels. The Small Industries Development Corporation is concerned with the supply of machinery on hire-purchase, supply of scarce raw materials, marketing assistance and promotion of entrepreneurship through various schemes. The state financial corporations provide long and medium-term loans for the acquisition of fixed assets of small and medium units.

The District Industries Centre is a unified agency for providing all types of services and support. It is headed by a general manager who has been given substantial authority for expeditious clearance. He is assisted by four functional managers each in charge of economic investigations, village industries, credit, and marketing and raw materials. In many states, a subdivisional setup has been created with an assistant director of industries and an industrial promotion officer, and the block-level setup has also been created with an extension officer to look after two or three blocks.

India has thus created and nurtured a very comprehensive institutional structure in the public sector operating at different levels, from the center to the block levels. Various services are rendered through this framework to small-scale industrial units. They include technical services, economic information and services, marketing assistance, management development and consulting services, entrepreneurial and small business development training, financial assistance and fiscal incentives.

Working Institutions

This section reviews the performance of some of the institutions with special reference to their activities in the small industry sector.

Industrial Development Bank of India. The Industrial Development Bank of India gives assistance to small units indirectly through the refinance and the bills rediscounting schemes. The financial assistance is provided to small units directly by the designated banks, the state financial corporations and the state industrial development corporations which, in turn, get the amount refinanced from the Industrial Development Bank of India at concessional rates of interest.

Table 1 gives statistics of approvals and disbursements to small-scale units relative to other units cumulatively since 1964. It will be seen that these accounted for 29 per cent and 32 per cent of the respective totals of Rs 239 billion and Rs 169 billion.

State Financial Corporations. State financial corporations provide medium and long-term assistance to small and medium-sized industrial units. The assistance is generally for the purchase of fixed assets and is through loans. However, often they also subscribe to shares, bonds, debentures and equity and also work as underwriters.

Table 1: **Approvals and Disbursements by Industrial Development Bank of India to Small, Medium and Large Industries, Cumulative from July 1964 to June 1987**

Item	Small Industries	Medium and Large Industries	Total
Approvals			
Amount (Rs billion)	68.9	170.3	239.2
Percentages	29	71	100
Disbursements			
Amount (Rs billion)	54.2	114.6	168.8
Percentages	32	68	100

Notes: Includes direct assistance, refinance and bills rediscounting assistance.

Small sector includes small-scale industries and small road transport operators assisted under refinance and bills rediscounting schemes and excludes those assisted under seed capital or special schemes and through the National Small Industries Corporation.

Source: Industrial Development Bank of India, *Operational Statistics, 1986-87* (Bombay), Tables 35 and 36, pp. 40-41.

Table 2 gives selected statistics on the activities of these corporations cumulatively since their inception to 1987. The performance is impressive, particularly in regard to the small-scale sector. Over the period, the state financial corporations assisted about 289,000 units and approved assistance of about Rs 61 billion of which about Rs 44 billion was actually disbursed. The share of small industrial units was about 70 per cent. Most of the loans (76 per cent) were in the Rs 0.2 million to Rs 3 million range.

State Industrial Development Corporations. The state industrial development corporations have been set up to promote industrial development by either directly promoting new units or in collaboration with private parties, and also by providing financial and other facilities to the units established by others. The financial assistance may take the form of a loan, equity or guarantee, and other facilities may include the preparation of feasibility reports, surveys of industrial

Table 2: **Selected Statistics of State Financial Corporations, Cumulative Since Their Inception to March 1987**

Approvals and Disbursements

Approvals	
Number of Units	288,650
Amount (Rs billion)	60.9
Disbursements	
Amount (Rs billion)	43.7
As percentage of approvals	72

Approvals and Disbursements to Small Units

	Approvals	**Disbursements**
Industrial Units (%)	69	70
Road Transport Operators (%)	8	9
Total	77	79
Amount (Rs billion)	60.9	43.7

Approvals by Amount (%)

Up to Rs 50,000	4
Rs 50,000 to Rs 200,000	11
Rs 200,000 to Rs 500,000	23
Rs 500,000 to Rs 1 million	15
Rs 1 million to Rs 3 million	38
Above Rs 3 million	9
Total (Rs 60.9 billion)	100

Source: Industrial Development Bank of India, *Report on Development Banking in India, 1986-87* (Bombay), prepared from Appendix Tables 77, 80, 79, pp. 134, 137, 136, respectively.

potential, training of entrepreneurs and development of industrial estates. Various incentive schemes of the central or state governments are also operated through them.

Table 3 shows that these corporations approved and disbursed about Rs 33 billion and Rs 22 billion, respectively, since their inception to 1987. The bulk of their assistance may have gone to medium-sized units. The large approvals (Rs 4 million to Rs 6 million and above) accounted for nearly four fifths of the total approvals.

Scheduled Commercial Banks. Consequent upon their nationalization, commercial banks have adopted various promotional measures to augment the flow of bank credit to small-scale units. The Reserve Bank of India has issued instructions that no worthwhile proposal of small units be rejected on the ground that

Table 3: **Selected Statistics of State Industrial Development Corporations, Cumulative Since Their Inception to March 1987**

Approvals and Disbursements	
Approvals (Rs billion)	32.5
Disbursements (Rs billion)	21.9
Disbursements as percentage of approvals	67
Approvals by Amount (%)	
Up to Rs 1 million	4
Rs 1 million to Rs 3 million	10
Rs 3 million to Rs 4 million	7
Rs 4 million to Rs 6 million	29
Above Rs 6 million	50
Total (Rs 32.5 billion)	100

Source: Industrial Development Bank of India, *Report on Development Banking in India, 1986-87* (Bombay), prepared from Appendix Tables 84, 89, pp. 141 and 145, respectively.

it is not supported by adequate security. The banks have also been advised to give special attention to the needs of the priority sectors which include agriculture, small units in industry and transport, and export-oriented activities. The target for public sector bank loans was fixed at 40 per cent to be achieved by 1984/85.

Table 4 gives statistics of loans from scheduled commercial banks by sector for 1968 and 1983. The year 1968 has been selected to represent the pre-nationalization position (the Imperial Bank of India was nationalized in 1955 and 14 major banks were nationalized in 1969), and 1983 is the year for which

Table 4: **Loans from Scheduled Commercial Banks by Sectors, March 1968 and June 1983**
(Percentages)

Sector	**1968**	**1983**
Industry	67.5	47.5
Large-scale and Medium-scale	60.6	36.5
Small-scale	6.9	11.0
Agriculture and allied	2.2	16.5
Internal trade	19.2	18.8
Services	..	2.4
Personal loans	..	4.0
Others	11.1	10.8
Total	100.0	100.0
Amount (Rs billion)	30.6	350.2

.. = not available.

Source: B.B. Pawar, "Indian Banking Profile for 1990", *The Journal of the Indian Institute of Bankers*, vol. 59, no. 1 (Bombay, January-March 1988), p. 67.

latest statistics are available. Loans to agriculture and allied sectors increased sharply from about 2 per cent in 1968 to 17 per cent in 1983, while those to industry declined from about 68 per cent to 48 per cent. However, the share of small industry increased from about 7 per cent to 11 per cent during the same period.

National Small Industries Corporation. The services provided by the National Small Industries Corporation to the small-scale units include supply of indigenous and imported machinery on hire-purchase and lease terms, development of prototypes for machines, equipment and tools, supply and distribution of indigenous and imported raw materials, assistance for the development and upgrading of technology, provision of training in several industrial trades, marketing assistance and the establishment of prototype development and training centers.

The activities of this corporation in these areas is presented in Table 5. Two noteworthy features of Table 5 are: (i) the value of orders secured by the corporation increased greatly over the period from about Rs 1,500 million in 1984/85 to about Rs 6,000 million in 1986/87; and (ii) the number of persons trained increased from about 900 to about 1,600 in these years.

Technical Consultancy Organizations. The activities of the technical consultancy organizations cover the preparation of project profiles and feasibility studies, the undertaking of surveys of industrial potential, conducting of entrepreneurship development programs and rendering of technical and administrative assistance. More recently, their activities have also included, for example, modernization and rehabilitation, transfer of technology, design and engineering services and management consulting services.

The activities of these organizations are indicated in Table 6. Their activities in preparing feasibility studies, project reports and profiles and in entrepreneurship development programs have been impressive and are growing substantially. However, their activities in preparing surveys of industrial potential and market development studies show a sharp decline.

Impact on Industrial Units

This section examines the impact of the programs of assistance and incentive schemes for the promotion of small-scale industries. First, the assistance provided by commercial banks, on the basis of a large-scale survey and the estimates of the aggregate value of assistance, is indicated. Subsequently, on the basis of a number of field studies of different industries at different locations, the contribution of industrial estates is examined and the main findings of the studies in regard to long-term financial assistance, on "reserved" industries and different types of incentives are summarized.

Table 5: **Selected Activity Indicators of the National Small Industries Corporation, 1984/85-1986/87**

Item	1984/85	1985/86	1986/87
Hire-Purchase Assistance			
Proposals received (Number)	2,564	2,627	2,107
Proposals received (Rs million)	360.0	397.1	417.1
Proposals accepted (Number)	1,703	1,898	1,203
Proposals accepted (Rs million)	184.1	232.2	..
Orders placed (Rs million)	106.1	141.3	159.9
Machines delivered (Rs million)	101.9	128.4	167.6
Marketing Assistance			
Domestic marketing products (Rs million)	33.2	43.7	39.7
Raw materials supplied (Rs million)	103.3	164.6	182.3
Export (Rs million)	24.6	9.5	15.8
Total (Rs million)	161.1	217.8	237.8
Marketing Assistance through Government Purchase Program			
Small units registered under Single Point Registration Scheme for Undertaking Supply (Number)	1,877	2,150	1,724
Orders secured from government departments and public sector undertakings (Rs million)	1,482.6	4,592.40	5,940.0
Activity of Prototype Development and Training Centers			
Persons trained (Number)	899	999	1,594
Machine tools supplied and job orders executed (Rs million)	18.2	22.1	23.3

.. = not available.

Source: Industrial Development Bank of India, *Report on Development Banking in India, 1986-87* (Bombay), prepared from Appendix Table 95, p. 148.

Table 6: **Selected Activities of Technical Consultancy Organizations, 1984/85-1986/87**
(Number)

Item	**1984/85**	**1985/86**	**1986/87**
Feasibility studies, project reports and profiles	1,019	1,537	2,158
Project appraisal	356	867	113
Industrial potential surveys, market surveys and development surveys	261	225	125
Functional industrial complexes and turnkey assignments	7	31	12
Modernization and rehabilitation and diagnostic studies	115	121	150
Other assignments and special studies	—	288	188
Entrepreneurship development programs			
Programs conducted	80	116	100
Persons trained	1,851	3,080	2,625

— = nil.

Source: For 1986/87, Industrial Development Bank of India, *Report on Development Banking in India, 1986-87* (Bombay), prepared from Appendix Table 96, p. 148. For 1984/85 and 1985/86, *Report on Development Banking in India, 1985-86*, prepared from Appendix Table 98, p. 81.

The Reserve Bank of India Study. The Reserve Bank of India, in collaboration with the financing commercial banks, organized a countrywide sample survey of the assisted small-scale industrial sector during 1977-1978.[2] The survey followed the then prevailing definition, i.e., an industrial unit with an original investment not exceeding Rs 1 million in plant and machinery and not exceeding Rs 1.5 million for an ancillary unit. The data related to the period 1976-1977. Of the total sample of 16,636 units, 2,390 were found to be closed down and 1,890 did not respond. The effective sample was therefore 12,356.

Table 7 gives the relevant statistics of nine selected ratios as well as of the relative distribution of units by nine size-groups, ranging from up to Rs 1,000 to Rs 1 million and above, based on the original value of plant and machinery of these units. The smallest size-group accounted for about 35 per cent and the largest 0.3 per cent of the total 12,356 units. For the other groups, beginning from the next smallest group (Rs 1,000 to Rs 10,000), the distribution was generally in the descending order.

Inventories as a percentage of sales averaged 17 per cent for all units with the ratio at 14 per cent for the smallest group and increasing to 21 per cent for the largest group. Current assets as a percentage of current liabilities for all units averaged 124 per cent. The ratio was 155 per cent for the smallest group and decreasing to 88 per cent for the largest group. Short-term borrowing as a percentage of inventories for all units averaged 61 per cent, being 29 per cent for the smallest group and increasing steadily to 79 per cent for the second largest group.

Total outside liabilities as a percentage of net worth for all units averaged 289 per cent. This ratio was 156 per cent for the second smallest group and generally increasing to 571 per cent for the largest group. Net sales as a percentage of net assets for all units averaged 182 per cent, being highest at 337 per cent for the smallest group and declining to only 144 per cent for the largest group. The ratio of net value added to total net assets for all units averaged 94 per cent. It was highest at 525 per cent for the smallest group and declining continuously to only 49 per cent for the largest group.

Gross profits as a percentage of net sales, of total net assets and after tax of net worth for all units averaged 6, 11, and 21 per cent, respectively. Although there were some exceptions, profitability as measured by these ratios varied inversely with size.

It may therefore be concluded that the smaller of the small-scale units are more liquid and have less bank borrowing and outside liabilities than the larger small-scale units. Also, the smaller units show a more efficient use of capital and have higher profitability than the larger units. These results possibly reflect the differences in access to, and cost of, credit according to the size of unit.

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[2] Department of Statistics, Reserve Bank of India, *Survey of Small-Scale Industrial Units*, Statistical Report, vols. 1 and 2 (Bombay, 1979).

Table 7: **Selected Financial Ratios for Assisted Units by Size as Denoted by the Original Value of Plant and Machinery**
(Percentages)

Ratio	Up to Rs 1,000	Rs 1,000 to Rs 10,000	Rs 10,000 to Rs 20,000	Rs 20,000 to Rs 50,000	Rs 50,000 to Rs 100,000	Rs 100,000 to Rs 200,000	Rs 200,000 to Rs 500,000	Rs 500,000 to Rs 1,000,000	Above Rs 1,000,000	All Units
Inventory										
Inventories as a percentage of net sales	14	16	17	16	16	18	17	18	21	17
Liquidity										
Current assets as percentage of current liabilities	155	160	155	155	132	119	116	107	88	124
Bank Credit										
Short-term bank borrowings as percentage of inventories	29	48	51	49	63	64	68	79	66	61
Capital Structure										
Total outside liabilities as percentage of net worth	221	156	170	173	235	370	364	402	571	289
Capital Efficiency										
Net sales as percentage of total net assets	337	214	197	196	185	169	169	160	144	182
Net value added by manufacture as percentage of total net fixed assets	525	199	156	111	102	90	70	58	49	94
Profitability										
Gross profits as percentage of net sales	6	9	9	7	7	5	6	5	6	6
Gross profits as percentage of total net assets	21	18	18	14	13	9	10	8	8	11
Profits after tax as percentage of net worth	47	34	35	24	25	18	15	a	18	21
Percentage distribution of units (units in sample number 12,356)	34.7	21.2	11.7	13.7	7.7	5.0	3.9	1.8	0.3	100

a Numerator negative.

Source: Reserve Bank of India, *Survey of Small-Scale Industrial Units, 1977*, Statistical Report, vol. 2 (Bombay, 1979), Table 3.3, p. 44 and Table 4.3, pp. 79-80.

Study on Aggregate Value of Incentives. Small industries receive assistance from a number of sources and in a variety of ways. Therefore, it is difficult to know the aggregate value of assistance, in absolute terms or in relation to the capital or output of these industries. In this connection, an attempt has been made in a study to evaluate the value of subsidies and incentives of nine selected programs with reference to six industries in seven states.[3] The nine programs in the study included exemption of excise duty and price preference (both Central Government), power subsidy, exemption of electricity duty, interest subsidy on seed capital, sales tax subsidy, octroi exemption, water concessions, and additional price preference (all by state governments). The six industries included cosmetics and toilet preparations, rubber and rubber products, paints and varnishes, glass and glass products, handtools, and gases. The seven states included Uttar Pradesh, Orissa, Rajasthan, Andhra Pradesh, Punjab, Madhya Pradesh and Maharashtra.

The value of subsidies and incentives for each industry in the state was calculated as a percentage of the ex-factory value of output. The study warns that this percentage represents the maximum to which industry is eligible; in practice, the value of incentives availed of would be smaller. All the same, it would seem that assistance can be very substantial indeed, as indicated by the general finding that the value of incentives and subsidies varied from 70 per cent of the ex-factory value of output in cosmetics and toilet preparations in units with output of less than Rs 500,000 to 33 per cent in gases. Further, the bulk of incentives came from two principal concessions given by the Central Government, viz., exemption of excise duty and price preference. Thus, for example, in the cosmetics and toilet preparation industry exemption of excise duty itself formed nearly 71 per cent of the total value of the incentives to which that industry was eligible.

Studies on Industrial Estates. An industrial estate is defined as a planned cluster of industrial enterprises offering standard factory buildings, erected in advance of demand, and a variety of services and facilities to the occupants. For an individual entrepreneur, the availability of a factory in the estate would result in the saving of a great deal of effort, time and expense in erecting a factory. Moreover, if he obtains such a factory on lease or hire-purchase, he need not block his funds on a long-term basis. The ready availability of infrastructure and location amidst other units in the estate can also help the unit through different types of linkages. In recognition of the significance of these advantages, the government started this program in the early 1950s. In view of such substantial advantages, it is expected that industrial units located in industrial estates should show better performance than the industrial units which are otherwise comparable but located outside the estates in or near the same city.

However, only a limited number of investigations lend support to the above hypothesis. A large number, on the other hand, suggest better performance of units located outside than of those located in estates. Of the studies examined, only one indicated the performance of estate-based units to be superior to that of outside units.[4] In other studies, the non-estate units showed a better performance.[5]

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[3] S.K. Tulsi, *Incentives for Small Scale Industries — An Evaluation* (Delhi: Kunj Publishing House, 1980).

The Industrial Development Bank of India Study. During the late 1970s, a number of field investigations of small industrial units were carried out with the objective of evaluating long-term financing by state financial corporations.[6] The evaluation was conducted in terms of the impact on assisted units, i.e., as judged by their financial and economic performance compared with non-assisted small units, cross-sectionally and on a time-series basis. The focus in the field investigations was on the collection of detailed data on assets and liabilities and output and on the opinions of the respondents on different types of incentives. The definition of small industry was as it was then prevalent, namely, units having investment in plant and machinery (original value) not exceeding Rs 1 million and not exceeding Rs 1.5 million for ancillaries.

The units selected were from three, four and seven industries in Bombay, Hyderabad and Jaipur, respectively. The latest year for which data were available for Bombay was 1976/77, for Hyderabad 1977/78 and for Jaipur 1978/79, and some data were also available for the previous four or five years in each case. The number of responding units was 206. However, only 149 units provided financial and economic data for the latest year, and 72 for the last four to five years continuously. Cases where the data of assisted and/or non-assisted units at the industry level related to only one unit were excluded, and the information presented in the study was limited to the categories in which the number of units was two or more. The main findings of the study in regard to long-term financial assistance, "reservation" and other incentives are described below.

Long-Term Finance: The hypothesis was that assisted units would show better performance than non-assisted units at a point in time, and that they would show improved performance over time. Table 8 presents the financial and economic ratios and Table 9 the growth rates of assisted and non-assisted units. The tables also give the number of units on the basis of which the ratios and growth rates have been determined.

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[4] R.L. Sanghvi, *Role of Industrial Estates in a Developing Economy* (Bombay:Multi-Tech Publishing Co., 1979).

[5] See N. Somasekhara, *The Efficacy of Industrial Estates in India* (Delhi: Vikas Publishing House Pvt. Ltd., 1975); M.A. Oommen, *Small Industry in Indian Economic Growth: A Case Study of Kerala* (Delhi: Research Publications in Social Sciences, 1972); K. Bandophadhyaya, *Industrialization Through Industrial Estates* (Calcutta: Bookland Private Limited, 1969); and P.N. Dhar and H.F. Lydall, *The Role of Small Enterprises in Indian Economic Development* (Bombay: Asia Publishing House, 1961).

[6] J.C. Sandesara, *Efficacy of Incentives for Small Industries* (Bombay: Industrial Development Bank of India, 1982).

Table 8: **Financial and Economic Ratios of Assisted and Non-assisted Units**

City, Year and Industry	Number of Units	Profits to Equity Capital (%)	Value Added to Total Assets	Value Added per Worker (Rs)	Surplus to Total Assets	Surplus per Worker (Rs)	Wages per Worker (Rs)	Total Assets per Worker (Rs)
Bombay (1976/77)	39							
Metal Products								
Assisted	8	14.3	0.21	9,198	0.11	4,793	4,073	44,470
Non-assisted	5	6.5	0.22	6,454	0.04	1,258	4,603	28,891
Machinery and Spare Parts								
Assisted	9	21.4	0.40	14,090	0.09	3,194	10,582	35,450
Non-assisted	4	-114.6	0.06	1,088	-0.19	-3,530	4,296	18,316
Paper and Paper Products								
Assisted	9	-3.2	0.13	5,244	0.04	1,601	3,506	40,433
Non-assisted	4	42.3	0.23	6,217	0.12	3,279	2,471	27,338
Hyderabad (1977/78)	59							
Industrial Fasteners								
Assisted	4	8.6	0.18	9,445	0.10	5,508	3,893	53,476
Non-assisted	3	20.4	0.31	6,798	0.14	2,969	3,414	21,582
Printing Press								
Assisted	2	-8.7	0.36	3,975	-0.03	-299	4,174	10,985
Non-assisted	6	6.4	0.21	6,147	0.07	2,131	3,784	29,223
Chemicals and Pharmaceuticals								
Assisted	7	23.9	0.21	11,100	0.14	7,039	3,969	51,820
Non-assisted	7	24.1	0.32	11,465	0.11	3,905	7,426	35,554
Machinery and Spare Parts								
Assisted	14	25.9	0.36	9,348	0.12	3,241	6,044	26,357
Non-assisted	16	48.3	0.35	9,684	0.13	3,718	5,731	28,006

Jaipur (1978/79)	40							
Industrial Fasteners								
Assisted	4	-1.4	0.16	5,520	0.06	2,237	3,270	34,410
Non-assisted	2	32.2	0.27	12,905	0.17	7,950	4,850	48,032
Metal Products								
Assisted	5	20.7	0.28	16,174	0.14	7,776	8,245	57,843
Non-assisted	9	36.3	0.31	9,062	0.16	4,740	4,164	29,685
Electrical and Electronics								
Assisted	3	45.1	0.24	15,998	0.19	12,746	3,184	67,700
Non-assisted	5	80.2	0.41	9,079	0.27	5,949	2,974	21,878
Plastic Products								
Assisted	2	45.5	0.28	27,738	0.24	23,252	4,411	97,989
Non-assisted	3	5.2	0.19	4,109	0.05	1,192	2,909	22,155
Chemicals								
Assisted	4	-15.5	0.15	6,088	0.03	1,138	4,403	41,945
Non-assisted	3	-12.9	0.10	5,561	0.03	1,812	3,688	54,004

Notes: The terms used in Tables 8-11 are defined below:

Fixed assets include land, buildings, plant and machinery, furniture and fixtures, and other assets such as office equipment and vehicles. They relate to net fixed assets, arrived at after deducting accumulated depreciation from their value at the time of installation or purchase.

Total assets relate to the net fixed assets, total current assets and other assets such as deposits for water and electricity connections.

Equity capital includes proprietary funds – paid-up capital and reserves.

Output is arrived at by adding to net sales (gross sales less value of goods received, allowances, discount and excise) the change in stocks of finished and semifinished products, other income and work done for others.

Value added is arrived at by deducting the expenses for basic raw materials, power, other materials, miscellaneous expenses, depreciation and work done for others from the value of output.

Wages include wages, salaries and benefits paid to employees, including management.

Surplus is defined as value added less rent and wages.

Profits are the residual item arrived at by deducting interest from surplus and are inclusive of taxes and provision for taxes.

Workers include owners and members of the family along with workers receiving wages and salaries in cash or kind.

Source: J.C. Sandesara, *Efficacy of Incentives for Small Industries* (Bombay: Industrial Development Bank of India, 1982).

Table 9: **Growth Rates of Assisted and Non-assisted Units**
(Per cent per annum, compound)

City, Year and Industry	Number of Units	Total Assets	Fixed Assets	Equity Capital	Ouput	Value Added
Bombay (1972/73-1976/77)	23					
Metal Products						
Assisted	7	6.7	1.7	3.6	-1.4	-5.7
Machinery and Spare Parts						
Assisted	6	2.5	-0.7	10.2	8.9	4.9
Paper and Paper Products						
Assisted	7	16.3	14.0	11.3	9.4	11.2
Non-assisted	3	16.3	34.2	12.9	14.1	-5.2
Hyderabad (1974/75-1977/78)	19					
Chemicals and Pharmaceuticals						
Assisted	2	14.9	1.9	15.6	125.8	a
Non-assisted	4	3.3	0.03	-3.0	6.0	5.6
Machinery and Spare Parts						
Assisted	8	5.6	8.0	6.5	13.1	12.8
Non-assisted	5	32.3	16.9	6.7	37.3	33.8

Jaipur (1974/75-1978/79)	21					
Industrial Fasteners						
Assisted	2	3.6	-2.4	-0.9	6.2	0.3
Metal Products						
Assisted	2	3.7	-4.5	1.0	20.5	10.5
Non-assisted	5	9.7	3.0	5.6	14.1	17.0
Agricultural Implements						
Assisted	4	4.6	-4.5	8.3	-7.6	-32.4
Casting and Rolling						
Assisted	3	12.6	5.1	10.9	23.7	-3.0
Chemicals						
Assisted	3	5.3	5.3	16.9	24.8	2.1
Non-assisted	2	4.2	1.8	-2.6	-16.9	-24.2

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[a] The rate of growth could not be determined because of data problems.

Source: J.C. Sandesara, *Efficacy of Incentives for Small Industries* (Bombay: Industrial Development Bank of India, 1982).

The findings, in general, were that assisted units had higher labor productivity, higher surplus and higher average wages than non-assisted units in a majority of industries, but non-assisted units had higher profitability, higher capital productivity and higher surplus per unit of capital and lower capital intensity than assisted units in a majority of industries. Thus, in general, while assisted units showed more efficient (or more economical) use of, and better rewards to, labor, non-assisted units showed more efficient (or more economical) use of, and better rewards to, capital. Although the statistics for the last four or five years related to fewer industries and units, the growth rates in a majority of industries were lower in assisted than in non-assisted units.

Reserved Industries: As the impact of competition from the large units on the small-scale units in the products and industries reserved for the exclusive development of small units is less in the reserved categories, it may be expected that small industries manufacturing reserved products would show better performance than other small industries at a point in time. Also, small industries in the reserved categories may be expected to show improved performance over time, and their performance would be better than that of other industries. Tables 10 and 11 give the financial and economic ratios and growth rates of reserved and other industries. The tables show that the performance of reserved industries does not outshine that of other industries.

Incentives: Tables 12-15 present the responses from units concerned to questions on available incentives provided in the form of facilities, finance and services. The majority of units had availed themselves of incentives in regard to land/shed and finance, while a minority had availed themselves of other types of incentives. Also, in general, the percentage of units which availed themselves of incentives was higher in the assisted group than that in the non-assisted group (see Table 12). In response to the question whether the units would have been established even without the specified incentives, about 50-75 per cent of the respondent units replied in the affirmative (see Table 13). In terms of the incentive of financial assistance from the government, the responses indicated that the units would have been established with financial assistance from alternative sources (see Table 14). An analysis of the responses of the units for not having availed themselves of the specified incentives indicated that a substantial number considered that there was no need for the incentive or they did not request incentives for various reasons (see Table 15). More than 50 per cent of the respondent units indicated that there was little or no impact of the incentives on per unit cost of production, about 44 per cent considered the incentives to be adequate, and about 90 per cent considered that the timely availability of facilities was more important than concessional terms on which the facilities were provided.

Table 10: **Financial and Economic Ratios of Reserved and Other Industries**

City, Year and Industry	Number of Units	Profits to Equity Capital (%)	Value Added to Total Assets	Value Added per Worker (Rs)	Surplus to Total Assets	Surplus per Worker (Rs)	Total Wages per Worker (Rs)	Assets per Worker (Rs)
Bombay (1976/77)	39							
Metal Products	13	13.05	0.21	8,451	0.10	3,830	4,217	40,226
Machinery and Spare Parts	13	14.08	0.37	12,377	0.07	2,308	9,753	33,192
Paper and Paper Products	13	-1.09	0.14	5,361	0.05	1,804	3,381	38,852
Hyderabad (1977/78)	59							
Industrial Fasteners	7	14.56	0.22	8,027	0.11	4,148	3,636	36,390
Printing Press	8	5.94	0.22	5,906	0.07	1,861	3,828	27,197
Chemicals and Pharmaceuticals	14	23.93	0.24	11,219	0.13	6,011	5,102	46,488
Machinery and Spare Parts	30	32.55	0.35	9,384	0.13	3,374	5,891	26,693
Jaipur (1978/79)	51							
Industrial Fasteners	6	11.71	0.20	7,449	0.10	3,729	3,683	37,969
Metal Products	14	26.97	0.29	12,943	0.14	6,397	6,391	44,779
Agricultural Implements	5	-15.74	0.08	4,960	0.02	1,223	3,429	62,852
Casting and Rolling	6	30.88	0.38	8,765	0.14	3,212	5,542	23,300
Electrical and Electronics	8	62.81	0.33	10,760	0.23	7,601	3,025	33,016
Plastic Products	5	26.38	0.24	9,925	0.16	6,622	3,279	40,822
Chemicals	7	-14.24	0.12	5,828	0.03	1,595	4,050	47,898

Note: In Bombay, the reserved industry category was metal products; in Hyderabad, industrial fasteners; and in Jaipur, industrial fasteners, metal products and agricultural implements.

Source: J.C. Sandesara, *Efficacy of Incentives for Small Industries* (Bombay: Industrial Development Bank of India, 1982).

Table 11: **Growth Rates of Continuing Units of Reserved and Other Industries**
(Per cent per annum, compound)

City, Year and Industry	Number of Units	Total Assets	Fixed Assets	Equity Capital	Output	Value Added
Bombay (1972/73-1976/77)	25					
Metal Products	8	5.8	0.9	3.1	-1.4	-5.8
Machinery and Spare Parts	7	2.8	-0.6	9.8	8.2	0.6
Paper and Paper Products	10	16.3	21.9	11.4	10.1	7.9
Jaipur (1974/75-1978/79)	24					
Industrial Fasteners	2	3.6	-2.4	-0.9	6.2	0.3
Metal Products	7	4.9	2.2	2.6	19.5	12.2
Agricultural Implements	4	4.6	-4.5	8.3	-7.6	-32.4
Casting and Rolling	3	12.6	5.1	10.9	23.7	-3.0
Electrical and Electronics	3	16.3	13.8	11.8	18.9	-1.8
Chemicals	5	4.7	4.0	5.5	-2.8	-15.9

Note: In Bombay, the reserved industry category was metal products; and in Jaipur, the reserved industry categories were industrial fasteners, metal products and agricultural implements.

Source: J.C. Sandesara, *Efficacy of Incentives for Small Industries* (Bombay: Industrial Development Bank of India, 1982).

Table 12: **Units Which Availed Themselves of Incentives**
(Number)

Type of Units	**Total**	**Land/Shed**	**Finance**		**Machinery on Hire-Purchase**	**Raw Materials**	**Marketing**	**Technical Assistance**
			Long/Medium-Term	**Short-Term**				
Assisted Units	104	69	103	93	28	41	15	6
	(100)	(66)	(99)	(89)	(27)	(39)	(14)	(6)
Non-assisted Units	102	50	20	77	16	32	9	8
	(100)	(49)	(20)	(75)	(16)	(31)	(9)	(8)
All Units	206	119	123	170	44	73	24	14
	(100)	(58)	(60)	(83)	(21)	(35)	(12)	(7)

Note: Figures in parentheses are percentages.

Source: J.C. Sandesara, *Efficacy of Incentives for Small Industries* (Bombay: Industrial Development Bank of India, 1982).

Table 13: **Units Which Benefited from Incentives and Would Have Been Established Even Without Incentives**

Incentive	**Beneficiary Respondent Units**	**Units Indicating Establishment Even Without Incentives**
Long and medium-term finance	123	74
Short-term finance	170	82
Machinery on hire-purchase	44	33
Raw materials	73	54

Source: J.C. Sandesara, *Efficacy of Incentives for Small Industries* (Bombay: Industrial Development Bank of India, 1982).

Table 14: **Units Which Would Have Been Established with Financial Assistance from Alternative Sources**

Incentive	**From Own Resources**	**From Friends or Relatives**	**From Other Sources**	**Total**
Long-term finance	—	23	51	74
		(31)	(69)	(100)
Short-term finance	22	43	17	82
	(27)	(52)	(21)	(100)

— = nil.

Note: Figures in parentheses are percentages.

Source: J.C. Sandesara, *Efficacy of Incentives for Small Industries* (Bombay: Industrial Development Bank of India, 1982).

Table 15: **Number of Units by Reason for Not Having Benefited from Incentives**

Incentive	**Total Respondent Non-benefited Units**	**No Knowledge of Incentives**	**No Need for Incentives**	**Did Not Receive Incentives**	**Did Not Request Because of**	
					Too Many Procedures	**Other Reasons**
Land/Shed	66	8	29	6	7	16
	(100)	(12)	(44)	(9)	(11)	(24)
Long/medium-term loan	66	3	38	2	23	—
	(100)	(5)	(58)	(3)	(35)	
Machinery on hire-purchase	133	8	77	21	27	—
	(100)	(6)	(58)	(16)	(20)	
Raw materials	102	6	19	58	17	2
	(100)	(6)	(19)	(57)	(17)	(2)
Marketing	124	3	80	10	4	27
	(100)	(2)	(65)	(9)	(3)	(22)
Technical assistance	144	5	110	12	9	8
	(100)	(3)	(76)	(8)	(6)	(6)

— = nil.

Note: Figures in parentheses are percentages.

Source: J.C. Sandesara, *Efficacy of Incentives for Small Industries* (Bombay: Industrial Development Bank of India, 1982).

Some Observations and Explanations

This section summarizes the main points which emerge from the evidence and discussion so far and attempts to account for some of the findings. There were five significant findings.

First, India has developed a most comprehensive network of institutions in the public sector for the promotion of small and, to some extent, medium industries. These institutions provide a variety of services to small units such as technical and economic information, marketing assistance, management development and consulting services, entrepreneurial and business development training, financial assistance, and fiscal incentives. Taken together, they, thus cater to all of their needs. The components of this network are at national, state, district and even at lower levels.

Second, a review of the work of these institutions viewed from the supply side suggests that their performance, in general, has been satisfactory.

Third, from the viewpoint of the performance of the units, especially the smaller ones, some studies show that the assisted small units have performed fairly well. It is also estimated that the value of subsidies and incentive schemes, expressed as a percentage of the value of output, can be substantial and, in some cases, can be as high as 70 per cent.

Fourth, yet another way of looking at the impact of assistance is to compare the performance of assisted units with that of non-assisted units, cross-sectionally and over time, the hypothesis being that the former fare better than the latter. In this connection, the available evidence on the three assistance programs, viz., industrial estates, long-term finance and reservation, leads to the general conclusion that the performance of non-assisted units was better than, or at least as good as, the performance of assisted units.

Fifth, a large number of units had not taken advantage of the incentives offered. Among the principal reasons cited were no knowledge of and no need for the incentives and too many formalities and procedures involved. Short-term and long-term finance and land/shed facilities formed a large portion of the assistance availed of under the incentives. A number of units reported that they would have started the units even without assistance. Also, a very large number reported that timely availability of different facilities in an adequate measure was more important than the concessional terms on which they may be given.

The fourth finding indicated above is rather disturbing for the assistance programs and merits further consideration before its implications are discussed. It must be remembered that the objective of assistance programs for small industries is to help improve their efficiency and to promote a healthy, viable small industry sector. While this may often result at the level of units, it may not necessarily or generally occur at the sectoral level for various reasons.

First, the small industry market is a leading species of a genus referred to as "atomistic industries".[7] In such an industry, there are many small suppliers of products which are largely undifferentiated. They compete rather fiercely. Since the amount of capital required to start and operate such enterprises is small, they are exposed to potential competition because of low barriers to entry. Second, apart from the pecuniary motive, entrepreneurs are known to enter this sector for other reasons. Some may prefer the status of an independent worker or an employer with a low income than that of an employee with a higher income. Third, some are known to enter this sector even at a personal, pecuniary sacrifice to provide employment to members of the family who are otherwise unemployable or could be employed less profitably outside the family business. Fourth, some may do so transitionally while waiting for a job in the organized sector.

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[7] J.S. Bain, *Industrial Organization* (New York: John Wiley and Sons, 1968), pp. 27-32.

The assistance programs tend to make entry easier in an area where even there may be too many firms. This could be avoided at least temporarily if assistance is restricted, at least for some time, to the existing units. However, often the criterion employed by the assisting agencies to judge their own effectiveness is the number of units assisted and the amount of assistance given so that there is a temptation to assist new rather than the established units and to give the units, once selected, more assistance than may be necessary.[8]

As a corollary, it may be noted that very often assistance is given without proper and rigorous scrutiny. This assistance tends to be "wasted" by the recipient units not only in being used more than necessary but also in being used as a substitute for some other factor. Thus, for example, capital may be used as substitute for labor. Such a substitution runs counter to the objective of promoting employment. It is all the more regrettable when it is not accompanied by superior performance of assisted units.

The waste of scarce resources may manifest itself in one or more of various ways. The units receiving better facilities in respect of finance, for example, may suffer from high excess capacity or they may employ more capital-intensive techniques of production. They may have large proportions of borrowed funds, and in spite of a fair rate of interest, interest costs may be high.[9]

There is yet another way in which waste of assistance arises. Assistance may give rise to "ghost" firms which have some sort of a shed to shelter their worthless plant and machinery. On the strength of this workshop, they qualify as a small industry and receive assistance. Since they are not manufacturers, they sell this assistance (e.g., raw materials and price preference) to traders and small and large manufacturers. To the extent this assistance flows back to the fold of genuine small manufacturers it would only be at a higher price, defeating the basic purpose of alleviating the hardships of the small industry sector. Moreover, to the extent it finds its way to the workshop of large-scale producers, the assistance reinforces the already weak position of the small manufacturers in the market. It is extremely difficult to estimate the number of such units and even more difficult to assess their impact but field investigations indicate that their proportion is sizable.

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[8] For evidence and observations on easy entry, profitability and liberal assistance, see J.C. Sandesara, *Small Industry in India: Evidence and Interpretation* (Ahmedabad: Gujarat Economic Association, 1980), pp. 25-26 and footnote 25, pp. 39-40.

[9] For evidence and observations on different types of waste, see J.C. Sandesara, *op. cit.*, pp. 27-28.

While the above discussion is generally applicable to all assistance programs, a special mention about the policy on reservation of products and industries for small industry is in order. The basic idea behind this policy seems to be that once the entry of the large-scale producer, generally believed to be more efficient in the market sense, is excluded the field is left open for the small-scale sector, and the small entrepreneur would produce the goods and services in that branch earning fair rewards for himself and also helping fulfill the avowed socioeconomic objectives for this sector. However, this may not occur. While the large-scale producer is excluded, the reservation policy also further encourages the small-scale producer. As a result, competition among the small-scale producers themselves may become more intense. However, it remains unclear whether, as a result, the net position in terms of the viability of the small-scale units and the health of the small industry sector as a whole in the reserved industries would be better or worse.

Implications

It is tempting to conclude that the evidence and explanations suggest that small industry development is not worth the effort. However, there could be the other view that but for the progressive policy premises and for the supporting measures, the social objectives would have suffered all the more and the performance of the small industry sector could have been worse. To elaborate, there would have been more unemployment and fewer entrepreneurs in the economy, profitability and productivity of the small-scale sector would have been lower, and output and employment of this sector would have been less.

While there is some point in this kind of argument, the temptation to exaggerate must be resisted. On the contrary, it may be argued that the void left by the assisted units could have been filled, at least partly, by other large and small units which would have sprung forth, a possibility prevented by the preemption of resources and the markets by the assisted units.

It is not suggested that small industry per se is an unproductive activity even on private profitability considerations, nor that the incentive scheme be abandoned. Undoubtedly, there are several areas where small-scale production is feasible and/or can meet social and cost-benefit criteria. It is agreed that a vigorous small industry sector is vital for industrial and economic growth. At the same time, as noted earlier, its handicaps are rooted in the very smallness of its operations, and therefore, left to itself, the market will not be in a position to permit this sector to play its rightful role in society. There is, therefore, a case for preferential treatment of this sector by the state. Thus, the view that small and medium industry can "fend for itself provided that the government does not discriminate too severely against it".[10]

All the same, the evidence available on this subject leaves little room for complacency. The findings referred to in this article indicate that the policymakers and administrators may well have promoted the wrong types of small industries. For greater effectiveness of the policy and functioning of the programs, it is essential that the schemes and measures be suitably modified.

In this connection, it is pertinent to keep the following in view: (i) resources of the government and governmental agencies are limited; (ii) productivity of resources may be higher elsewhere, e.g., in family planning, health, primary education, public utilities and large-scale manufacturing; (iii) growth of demand for the products of small industries may be limited by growth in agriculture and large industries; (iv) investment in this sector may be productive only upon the availability of complementary resources, e.g., technical and marketing skills and suitable entrepreneurs; (v) the incidence of sickness and weakness in the small industry sector has been growing and has now become high; (vi) not all small industries are growth-oriented; (vii) not all small industries are efficient in terms of the market or in terms of being capital saving in relation to income and employment; and (viii) the impact of the existing assistance programs may not have been substantial.

To this formidable list must be added the low barriers of entry to this sector. The least that could be expected of assistance programs is that they should not make entry too easy; overcrowding would nullify the impact of assistance, or worse, make it counterproductive. Clearly, entry should not be regulated by the government, but easy entry is an important factor for the viability of small units and the health of the small industry sector to warrant the serious attention of assistance agencies. Also, of the large numbers in this sector, only a few may grow to become large units; of the rest, some will become somewhat larger while perhaps a majority will remain small and some will not even survive. It is difficult to identify in advance the promising units and more difficult to design and operate a program of sufficient sensitivity to benefit these units. This is a challenge for a more productive functioning of the assistance agencies.

The investigations and statistics referred to earlier suggest that the various types of assistance which have been used so far have been far removed from the sensitivities referred to above. There is clearly a need for a wider publicity of the activities of the assistance agencies. While a policy of indiscriminate assistance may appear fair and just, it is wasteful in that it would result in excessive assistance to some units and in depriving other deserving units of assistance because of the overall resource constraint. Therefore, a more discriminating program of assistance needs to be designed and operated for better allocational needs. Such assistance involves, among other things: (i) favoring the growth-oriented and viable units and the units satisfying the socioeconomic norms, and avoiding others; (ii) fostering more of the clustered units to reinforce backward and forward linkages; (iii) relying exclusively or principally on assistance related to land/shed and finance, and implementing other assistance programs related to raw materials, marketing, machinery and technical advice sparingly; and (iv) giving timely and adequate assistance.[11] In addition, there is a need for streamlining procedures and facilitating expeditious decision making.

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[10] Marilus Cortes, Albert Berry and Ashfaq Ishaq, *Success in Small and Medium-Scale Enterprises — The Evidence from Colombia* (New York: Oxford University Press, 1987), p. 225.

In conclusion, a suggestion is offered here on the institutional framework for the promotion of small industries in India.

Basically, small industries may be viewed in the perspective of their relation with large industries. It would perhaps be appropriate to have a more functional administrative setup for small industries based on this relationship. Under the scheme suggested here, the small industry sector may be divided, according to its present relationship with the large industry sector, into "competitive", "complementary" and "independent" categories. While the small industry portfolio may continue to be under the Ministry of Industry at the center and the states, the work should be organized under three units one for each of these categories under one authority. The unit should have subject heads by product and industry or by a cluster of products and industries. The subjects should be suitably linked through the units with the related subjects and products handled by the department dealing with the large industry sector. Thus, for example, khadi, handloom and powerloom industries will be under one subject in the unit of "competitive small industry", and the problems of small-scale production in this line should be dealt jointly with the department dealing with the cotton mill industry. Similarly, the ancillary products used in the manufacture of automobiles will be under the subject automobile spare parts or engineering products in the unit of "complementary small industry", and the problems of small-scale production in this line will be dealt with by this unit jointly with the department dealing with the automobile or engineering industry.

It follows from this logic that the present organizational framework of the Khadi and Village Industries Commission and the product boards will also have to be replaced by three boards for competitive small industry, complementary small industry and independent small industry. These boards will report to the respective units in the government. Under the present structure, it is difficult to coordinate the development programs even in the context of production by various subsectors of small industry. The proposed structure would overcome such conflicting organizations. It would enable the problems of small industries to be viewed in the perspective of their relation with large industries in the marketplace, and help in the evolution and implementation of more appropriate policies.

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[11] See also J.C. Sandesara, *Efficacy of Incentives for Small Industries* (Bombay: Industrial Development Bank of India, 1982).

Small and Medium-Scale Industries in Indonesia

R.B. Suhartono*

Until the late 1960s, when the issue of perceived massive and rising unemployment came to the fore, the promotion of small and medium-scale industries had not become a major concern of development policy. Since then, because of the employment generation potential of small and medium-scale industries, more and more governments in the developing countries have adopted policies and measures for the promotion of these industries.

In any developing country, most manufacturing activities take place in small and medium industries and these account for an overwhelming proportion of the manufacturing establishments in the country. Available data do not suggest that the importance of small and medium industries declines as the levels of development rise. In fact, since the mid-1970s, small and medium industries may have made a comeback in the developed countries, due to, among other things, the shortening of the product life cycle and the need for flexible responses to changes in currency exchange rates, product markets and technological development.

This article attempts to describe the experience of Indonesia in the promotion of small and medium industries for development. In doing so, however, it first briefly examines the general features of small and medium-scale industries and the problems they face.

Small and Medium Industries: General Aspects

Size Structure

The terms "small" and "medium" refer to the size of establishments. Although the characteristics of establishments will not necessarily change dramatically with changes in size, establishments of different sizes do vary in such respects as the use of technology, pattern of employment, nature of products, orientation of markets and financing arrangements. While size may be measured by capital employed, the most commonly used measure is the number of workers in an establishment. In the developed economies, small scale often means less than 200-300 workers; in the developing countries, where the average plant size is smaller, small scale generally refers to establishments with less than 50 workers. In this article, the following size classification has been used: cottage and household industries (1-4 workers); small-scale industries (5-49 workers); medium-scale industries (50-99 workers); and large-scale industries (100 workers and above).

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One study reveals some features of the size structure of manufacturing industries in Asian countries in regard to the number of establishments, the absorption of employment, and the generation of value added or production.[1] While size structures differ not only across countries in the same industry but also between industries in a particular country, a few generalizations drawn from the data of the study may be useful although the figures used (for around 1976) are somewhat out-of-date.

First, even in industrialized countries, cottage industries employing fewer than five persons accounted for about half of all the manufacturing establishments. In the developing countries, the shares of these industries were well over 80 per cent, reaching more than 95 per cent in Indonesia. In terms of employment, cottage industries in Indonesia were extremely important, absorbing about four fifths of all the persons engaged in manufacturing industries, but generating less than one seventh of value added. The figures for other developing countries were in general much lower while for the developed countries the employment share was less than one tenth. As measured by their employment shares, cottage industries were mainly concentrated in several industries where traditional techniques of production could be used while maintaining a competitive edge, such as in food, clothing, footwear, leather, pottery, furniture, and wood and metal products.

Second, by excluding cottage industries, it has been found that in developing and developed countries alike, a significant part of manufacturing activities took place in small and medium-scale establishments. In Japan, the small-scale industries (employing fewer than 50 persons) accounted for around 90 per cent (reaching as high as 95 per cent in Indonesia) while the small and medium industries accounted for over 97 per cent of such establishments. The small and medium industries in Indonesia absorbed about 54 per cent of the employment and generated about 25 per cent of the value added of non-cottage industry establishments. The corresponding figures for Japan were 49 per cent and 35 per cent, respectively. Unlike the cottage industries, in terms of employment shares the small and medium industries were less concentrated in specific manufacturing activities, although they had higher than average employment shares in industries that used relatively labor-intensive techniques (such as leather, footwear, furniture, metal products, musical instruments, toys, pens and pencils), where raw materials were spatially dispersed (food and wood products), or in which the proximity to markets was important (food and printing industries).

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[1] Ulrich Hiemenz and Mathias Bruch, *Small and Medium-Scale Manufacturing Establishments in ASEAN Countries: Perspectives and Policy Issues*, Economics Staff Paper, no. 14 (Manila: Asian Development Bank, 1983). See also Seiji Naya, *Small Scale Industries in Asian Economic Development: Problems and Prospects*, Economics Office Report Series, no. 24 (Manila: Asian Development Bank, 1984).

Third, while the small and medium industries had substantial sectoral employment shares in only few industries, the sectoral employment shares of large-scale industries were important in almost all manufacturing subsectors. This may be explained by the fact that the large-scale establishments usually prevailed in industries characterized by economies of scale, which in general exhibited a much less specialized sectoral production pattern. In the early stages of development, small and medium industries may compete with large-scale industries in the production of consumer goods. Later, as markets become more developed and diversified, creating opportunities for product differentiation and vertical specialization, the industrial structure tends to shift more toward complementary relationships.

Fourth, with only a few exceptions, capital intensity and labor productivity increased with size. However, the greater the level of disaggregation, the less frequently were smaller enterprises found to be more labor intensive and to have lower labor productivity.[2] Differences in labor intensity between size groups within an industry were dwarfed by differences between industries, implying that labor-intensive industries had relatively a high proportion of small enterprises.

Fifth, small firms were not consistently more efficient in the use of resources than their large counterparts. There were cases when small and medium industries were inefficient in that they used more labor and more capital per unit of value added or output than the large-scale establishments. However, according to the study referred to earlier, at prevailing prices uncorrected for possible distortions, small and medium establishments in member countries of the Association of Southeast Asian Nations (ASEAN) were more efficient than large-scale enterprises in about half of all the industrial subsectors.[3] In Singapore, where price distortions were minimal, small and medium establishments were highly efficient and contributed strongly to exports as did large-scale enterprises.

While empirical evidence on whether small and medium industries are relatively more efficient in the use of factors of production may not have been very conclusive, the rationale for promoting these industries could still exist. Basically, the economic arguments rest on the hypothesis that there are sources of comparative advantage for small and medium industries, and that without policy interference the existing environment prevents the maximum realization of these sources of comparative advantage.

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[2] I.M.D. Little, "Small Manufacturing Enterprises in Developing Countries", *The World Bank Economic Review*, vol. 1, no. 2 (January 1987).

[3] Ulrich Hiemenz and Mathias Bruch, *op. cit.*, pp. 63-66.

Comparative Advantage

The existence and growth of the small and medium industries are to a large extent to be determined by their comparative advantage, or disadvantage, vis-à-vis the large-scale industries regardless of whether their relationships are complementary or competitive. Since the two groups of industries are made distinct only arbitrarily by virtue of the number of persons engaged, a question naturally arises as to whether comparative advantage can differ with differences in the size of establishments; if it does, the most important determinant must be the extent to which economies of scale are applicable.

When scale economies are not particularly important in applying manufacturing processes or in the making of products, the small and medium industries may be expected to have a comparative advantage. This source of comparative advantage may be found in industries where the manufacturing processes can be broken down into many separate operations; in simple assembly, mixing or finishing operations where quality, precision and standardization requirements can be easily met; and in the production of certain specialized low-volume products. Even if economies of scale exist in regard to finished products (including in such activities as product design, material receiving and handling, packaging, sales and marketing), but not in the processes for making the products, the smaller establishments can still enjoy comparative advantage, and it will be worthwhile for the large-scale industries to engage in subcontracting arrangements with the small and medium industries.

Comparative advantage for small and medium industries is not necessarily ruled out even if economies of scale within a given branch of industry prevail. Given technological heterogeneity, the small and medium industries can successfully compete by using intermediate and labor-intensive techniques which can be operated by cheaper and lower skilled labor. Labor market imperfections allow small and medium industries to pay lower wages while labor problems may induce large-scale industries to engage in subcontracting arrangements. The ability to respond flexibly to volatile changes in products, technology and markets may also place the smaller establishments in a more advantageous position. Size-specific product differentiation may allow small and medium industries to compete directly with large-scale industries in producing the same product, for example, in the production of inferior goods for the lower income groups or even in the production of custom-made luxury items. In the case of size-specific vertical specialization, small and medium industries may have cost advantages in producing simple components, in providing industrial services to do jobs made to order, or in assembling highly diversified but standardized products.

High transport costs and the small size of the total market may offer natural protection for small and medium industries. When markets are dispersed, production close to local markets may favor small and medium industries, especially when the goods are easily perishable and materials gain bulk in the process of manufacture. On the other hand, the processing of spatially dispersed raw materials is also another source of comparative advantage, especially when the risk of spoilage and the loss of weight resulting from the process of manufacture favors production on a smaller scale located close to the sources of materials.

While the discussion on small and medium industries has usually been related to the lower end of the technological spectrum, it may be noted that in the field of high technology, particularly in electronics, in a number of cases technological innovation could have first been applied by the owners in small and medium industries that make them excel in their comparative advantage. The growth of venture capital institutions has in a way been a reflection of the recognition that the small and medium industries have the potential for developing comparative advantage.

For the more traditional industries in developing countries, an illustration of the sources of comparative advantage may be obtained by grouping those industries in which smaller establishments account for half or more of total employment. Although the data are not directly comparable, a rough picture of the pattern of the sources of comparative advantage in small and medium industries in Indonesia and the Republic of Korea may be seen from Table 1.

The table indicates that locational factors were the most important cause of the predominance of the smaller establishments in an industry. Nearly 60 per cent of employment in small and medium establishments in the Republic of Korea was in resource processing, market-oriented and service industries, while for Indonesia about 88 per cent of employment in small-scale industries was in dispersed raw materials processing and market-oriented industries. Insofar as many of these industries were subject to economies of scale, the basis of their comparative advantage was relatively precarious.

It can be noted that through the exploitation of their comparative advantage, small and medium industries could play a dynamic role in the economy and contribute substantially to the fast growth of exports, as demonstrated by, for example, Hong Kong, Japan and Singapore. During the period of rapid industrial development, small and medium enterprises in Japan accounted for about half of all exports.[4]

Disadvantages and Constraints

While exploitation of the sources of comparative advantage for the smaller enterprises provides the basis for their growth potential and dynamism, in some cases, competition is most intense not between the small and medium industries, on the one hand, and the large-scale industries, on the other, but within establishments of similar sizes. Many of these small and medium industries cater

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[4] Saburo Okita, *The Developing Economies and Japan: Lessons in Growth* (Tokyo: University of Tokyo Press, 1980).

Table 1: **Relative Importance of Types of Industry in which Smaller Establishments Predominate: Indonesia (1979) and the Republic of Korea (1975)**
(Percentages)

Type of Industry	Employment		Production	
	Indonesia (below 20 workers)	Republic of Korea (5-99 workers)	Indonesia (Output)	Republic of Korea (Value Added)
Market-oriented	70.1	26.3	50.2	25.1
Dispersed resources	18.0	23.4	38.1	26.5
Crafts	6.4	1.2	4.9	0.5
Assembly, mixing and finishing	4.9	17.6	6.0	21.6
Separable operation	0.6	17.3	0.8	15.9
Service	—	9.8	—	7.4
Small total market	—	4.5	—	3.0
Total	100.0	100.0	100.0	100.0
	1,903,471 (persons)	144,691 (persons)	862,932 (million rupiah)	166,666 (million won)

— = nil.

Sources: M. Godfrey, "Should Small Industry Get Special Treatment? The Issues for Indonesia", Development Studies Project Research Memo No. 9 (January 1988), mimeographed; and Sam P.S. Ho, *Small-Scale Enterprises in Korea and Taiwan*, World Bank Staff Working Papers, no. 384 (Washington, D.C., 1980).

to the lower income groups and the rural areas, and their growth will be primarily constrained by domestic demand expansion which originates from the growth of incomes of the lower income strata and rural areas.

Sources of comparative disadvantage for the small and medium industries include consumer preferences for established or well-known brands of the large-scale industries and policy biases that unwittingly discriminate against the smaller establishments. These policy biases are mostly a result of the foreign trade regime, fiscal incentives for investment and export promotion, and credit and financial sector controls which most developing countries maintain.

The net effect of tariffs, quantitative restrictions and other trade barriers as reflected in the effective rates of protection, may differ not only among industries but also between establishments of different sizes within the same industry. The structure of protection that is biased toward large-scale capital-intensive industries in effect discriminates against the use of labor and employment creation which, in turn, entails slow growth of final demand of the lower income groups that are important consumers for small and medium industries.

In regard to incentive packages for investment and export promotion, the most common elements are the reduction or exemption of duties on imported inputs, drawback facilities for exporters, tax incentives and concessional credit facilities. Insofar as small and medium industries are hardly the beneficiaries of these incentives (because they are explicitly excluded, or the incentives are restricted to firms of some minimum size, or they are unaware of the incentives obtainable, or are unable to handle the paperwork needed to meet the requirements and procedures), these industries are in effect also being discriminated against.

Access to commercial credit at reasonable cost is essential for development, but it is generally more difficult to overcome problems of capital needs for small and medium industries even in developed countries.[5] In the developing countries, the financial markets tend to be less developed and more fragmented, requiring the adoption of monetary and credit policies which have a bearing on the determination of interest rates and the allocation of credit. Low spreads of interest rates induce financial institutions to develop preferences for lending to large-scale industries, especially when transaction costs for lending increase as the size of establishments decreases.[6] Selective credit policies limit the access to formal credit for the small and medium industries not eligible for special credit programs. It is not uncommon that the small and medium industries face a lack of access to commercial credit so that they must resort to their own internal funds or informal markets.

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[5] Commercial loans to smaller establishments, if they are obtainable, usually bear higher rates of interest because the transaction costs of lending to small borrowers tend to be higher.

[6] Even if special institutions are created to lend to small and medium industries with preferential interest rates, the loans tend to go predominantly to establishments at the upper end of the permitted size range. There may also be special schemes for subsidized lending to the very small establishments, but the proportion of the beneficiaries reached by such schemes usually tends to be low.

Not all the constraints are external in nature; some are internal, such as deficiencies in entrepreneurial quality, shortcomings in management, lack of appropriate accounting procedures, inability to estimate demand correctly and insufficient technological capability. At the microeconomic level, financing of working capital requirements is often mentioned as a major problem. Supply and procurement of inputs that meet certain specifications are often unstable and involve higher prices due to a low volume of transaction that poses problems in production and delivery scheduling. The large-scale industries, on the other hand, can rely on long-term contracts at favorable prices for bulk purchase and are able to insist on suppliers meeting required standards. Workers are often more attracted to large-scale industries for reasons such as job security, more pleasant work environment and higher social status.

Many small and medium industries operate in congested residential areas and poorly laid-out premises that lower productivity, while those in rural areas face inadequate infrastructure that adversely affect availability of inputs and marketing of output. Substantial segmentation in a limited domestic market may result in small and irregular orders for subcontractors, especially when the large-scale industries play off subcontractors against each other. Competition is stiff especially in markets for standardized items and where innovation can easily be imitated by others. Overcoming problems in penetrating export markets may be more difficult for the small and medium industries, especially when they are placed in a disadvantageous position in regard to information about international trading practices, knowledge about demand and supply in foreign markets, meeting delivery schedules and product quality, and coping with administrative procedures. For these and other reasons, among the small and medium industries there may be low capacity utilization and profitability and inefficient use of the factors of production.

In any case, the fact that small and medium industries can effectively compete with, or become an indispensable complement to, large-scale industries suggests that they could contribute even more if the constraints facing these industries are alleviated through direct as well as indirect policies. Policies required do not preclude the necessity of restructuring the small and medium industries, and in general they should be designed to promote the efficient, rather than to subsidize the inefficient or to sustain the unviable, industries.

Policy Rationale

In many developing countries, the industrial sector has made a significant contribution to economic development. However, it has been argued that the expansion of industrial manufacturing alone cannot be expected to solve the employment and underemployment problem in most developing countries.[7]

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[7] D. Morawetz, "Employment Implications of Industrialization in Developing Countries", *Economic Journal* (September 1974).

This provided the rationale for concentrating development efforts on agriculture as a means of increasing labor absorption. Later, however, it became clear that the farm sector was unable to productively absorb the large increments of the labor force; the restressing of the inability of agriculture to solve the employment problem led to the conclusion that the generation of off-farm employment was of critical importance.

In a labor-surplus economy (where the social opportunity cost of labor is much lower than its market price), and assuming that smaller establishments are both more labor intensive and have higher capital productivity than larger ones, there will be an employment case for a policy bias in favor of small and medium industries.[8] If it can be further assumed that higher labor intensity implies greater employment opportunity for members of farm households, landless laborers and urban unemployed or underemployed, the consequent increased demand for unskilled labor can become one of the effective means for improving income distribution, reducing poverty and inequality, and raising overall welfare in general.[9]

The other effect of increased employment, and better distribution, in promoting small and medium industries is larger production, provided these industries represent a more efficient utilization of capital and labor. In this regard, the larger production from promoting small and medium industries may be brought about by a pattern of growth that alters the composition of output and which is likely to be more in line with domestic needs and capabilities for the following reasons.

First, it may be argued that small and medium industries produce goods that are more appropriate to meet the increased demand of the lower income groups resulting from the employment and redistribution effect, thereby minimizing leakages from imports of consumer goods. Second, small and medium industries are less likely to use imported capital, manpower and energy and can better adapt technology to local conditions, thus minimizing foreign exchange requirements. Third, small and medium industries that cater to exports, or support the large-scale export industries, could be more flexible in adjusting their production capabilities to meet differing market requirements and changing demand patterns for yielding higher value exports. Since a policy that fosters the development of small and medium industries could yield dynamic benefits but is less likely to be faced by balance-of-payments constraints, it can play a pivotal role in the light of the changing international economic environment.

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[8] It is, however, not sufficient to establish that smaller enterprises use more labor and no more capital per unit of output. The employment case can be equally applied to larger establishments, thereby favoring the promotion of large-scale, labor-intensive industries. The employment case for promoting small and medium industries therefore rests on the argument that these industries, given the social costs, use factors of production more efficiently while absorbing more labor.

[9] A policy bias toward greater labor intensity may, of course, be justified as a means for redistributing income, which would have been otherwise difficult to implement. Again, this argument can be equally applied to large-scale, labor-intensive industries, and the case for promoting small and medium industries can only be made if it represents a more efficient use of the factors of production.

Active promotion of small and medium industries may therefore be justified as part of a general industrialization strategy.

To sum up, the active promotion of small and medium industries is desirable from economic considerations if it represents a more efficient allocation of scarce resources and also from political and social considerations if it contributes toward the creation of employment opportunities especially for the unskilled, the generation of income particularly for the low-income groups, and better equity. It is also necessary when, for one reason or another, the economic environment contains biases that discriminate against small and medium industries. Efforts to alleviate these biases have merit in helping to establish a more labor-absorbing pattern of industrialization, especially when the smaller labor-intensive establishments have inherent comparative advantages. However, there may be practical difficulties, especially when the biases are not deliberately created but merely a by-product of other equally important policies.

In many countries, including Indonesia, policies and measures to actively promote the development of small and medium industries have been implemented. Lending institutions to provide access to credit (sometimes at subsidized rates) and credit guarantee schemes on loans to small and medium industries have been established. Industrial extension and specialized technical services, research and development as well as management institutes, industrial estates, and infrastructure facilities have been set up. Some have adopted measures to specifically protect small and medium industries, to enhance their complementary relationships with large-scale industries, and to give incentives, subsidies and special preferences, often with legislative support.

The Experience of Indonesia

Some of the problems and characteristics mentioned earlier, and the rationale in general terms for giving special treatment to small and medium industries, also apply to Indonesia. This section will therefore deal with a brief description of policies and measures that have been adopted to promote the development of small and medium industries. These industries, however, have different meanings to different government agencies. The Central Bureau of Statistics classifies industries according to the number of persons engaged: household and cottage industries (up to 5); small industries (6-19); and medium and large industries (20 and above). Since 1979 the Ministry of Industry has considered any manufacturing industry to be small if its investment for machinery and equipment does not exceed Rupiah (Rp) 70 million and its investment per worker does not exceed Rp 625,000, while Bank Indonesia considers an industry to be small if its net assets do not exceed Rp 100 million. Thus, what is classified as small industry by the Ministry of Industry and the central bank may presumably include firms that employ more than 20 workers.

The treatment of small industries and other industries in Indonesia is distinct in one essential respect: the small industries are under the guidance of a special Directorate General for Small Industry while others are subject to sectoral policies implemented by the respective directorates general for basic and multifarious industries. Policies have been adopted in support of the development of small industries, but there is no specific policy directed toward medium-scale industries as these are subject to more general sectoral policies. Accordingly, the experiences of Indonesia that are described in this article essentially refer to small industries as understood above, which in practice also include those that on employment criteria may belong to the medium-scale category.

Since the First Five Year Development Plan (1969/70-1973/74) period, the Government of Indonesia has given a high priority to small industries in particular and small enterprises in general. Billions of dollars have been made available to strengthen and facilitate the development of small enterprises, and during the Third Five Year Development Plan (1979/80-1983/84) the Directorate General of Small Industry was created within the Ministry of Industry. Almost all known types of assistance commonly provided in other developing countries have been given at one time or another, including the provision of subsidized credit and inputs, guidance and technical assistance, linkage-type programs, and reservation schemes. In general, policies and measures that have been adopted can be categorized into those that relate to access to credit, removal of production and marketing constraints, and infrastructure development.

Access to Credit

In order to facilitate small indigenous enterprises that had insufficient collateral to obtain bank loans, a program was launched in December 1973 for providing small investment credit (KIK) and small working capital credit (KMKP) at subsidized rates.[10] While the KIK and KMKP program was intended essentially for development purposes, the lending institutions handling the program, with the exception of the state and provincial development banks, have been primarily commercial banks. To assist these banks in performing the development banking practices for small enterprises, Bank Indonesia launched the Small Enterprise Development Project in 1977. The focus of the project has been on upgrading lending procedures of the banks concerned and training of loan officers. The activities include training of bank officers in technical appraisal, monitoring of implementation and credit supervision; conducting identification surveys of sectors or commodities suitable for financing through KIK and KMKP pilot projects; consulting services; and assistance to lending institutions in overcoming problems.

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[10] The interest rate was set at 12 per cent per annum (compared with the current rate of around 20 per cent from financial institutions) and the credit ceiling at Rp 15 million, for a maximum period of 8 years for KIK (with up to 3 years grace period) and 5 years for KMKP (with up to 1 year grace period). The decision for granting KIK and KMKP loans was to be made on the basis of project feasibility, and only when it was considered necessary would a collateral, amounting to at most 50 per cent of the value of a project, be required. Applications for loans could be filed at any of the more than 1,000 branch offices of the banks handling the program. These banks received special liquidity credit at a subsidized rate from Bank Indonesia amounting to 80 per cent of loans for KIK and KMKP and participated in credit insurance arrangements covering 75 per cent of the default risk. It has been estimated that overall these arrangements provided a gross interest spread of a little over 6 per cent and 7 per cent for KIK and KMKP, respectively. See K. Arief, "Small Scale Enterprise and Small Enterprise Credit Programs in Indonesia: Background and Experience", paper prepared for the Asian Regional Meeting of Donor Agencies on Small Scale Enterprise Development (8-11 December 1981); and B. Bolnick, "Concessional Credit for Small Enterprise", *Bulletin of Indonesian Economic Studies*, vol. 18, no. 2 (1982).

From its inception, the KIK and KMKP program expanded rapidly, and by September 1987 the cumulative loan approvals reached over Rp 4.8 trillion for about 2.5 million borrowers; about a fourth of this total was for investment credit while the rest was for working capital. Of this amount, small industries received over Rp 520 billion involving more than 250,000 borrowers; investment credit amounted to about 30 per cent.[11]

Total outstanding KIK and KMKP credits by the end of September 1987 reached Rp 1.2 trillion. Arrears and defaults were relatively low in percentage terms during 1981 and 1982, but increased from 1983 to 1986 and then declined in 1987 (see Table 2). While the number of loan approvals (both in terms of value and borrowers) continued to increase considerably throughout the period, in general total outstanding credits through KIK and KMKP tended to decline during the last three financial years (see Table 3).

From figures of additional KIK and KMKP loan approvals each year during 1974-1986 and other available data, certain broad inferences may be noted (see Table 4). First, progress was quite sluggish in the beginning but gained momentum from 1977 to 1981. However, there was a sharp decline in 1982 and 1983 and the figures for 1984-1986 (with an average of Rp 560 billion) were substantially lower than the peak of 1981 (over Rp 740 billion). This pattern is even more pronounced in regard to investment credits; KIK reached the peak of nearly Rp 220 billion in 1981, declined sharply in 1982 and during the period 1983-1986 the average was less than Rp 110 billion. The growth patterns of KIK and KMKP lending during 1974-1986, for small enterprises in general and small industries in particular, suggest that there may have been constraints in expanding the KIK and KMKP program, especially compared with the growth of bank credits to economic sectors in general and to the manufacturing sector in particular (see Table 5).

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11. Small enterprises that qualify for the KIK and KMKP program could have net assets of up to Rp 100 million for small industries and construction and up to Rp 40 million for trade and services. Of the total KIK and KMKP loans made so far, on the average small industries obtained 17.8 per cent, trade and services 49.1 per cent, agriculture 12.5 per cent, transport 11.1 per cent, and others 9.5 per cent. Besides KIK and KMKP, small enterprises can also obtain credits from KUPEDES, which is a general rural savings and loan program. By the end of March 1987, total outstanding credits to economically weak groups amounted to Rp 4,835 billion which included among others KIK and KMKP (Rp 1,189 billion), KUPEDES (Rp 384 billion), credit for cooperatives (Rp 275 billion) and credit for house ownership (Rp 1,459 billion). See Bank Indonesia, *Report for the Financial Year 1986/1987.*

Table 2: **Collection of KIK and KMKP Loans, 1981-1987**

Year (31 March)	In Per Cent of Total Value				Total Value (Rp billion)
	Non-Problem	Less Smooth	Doubtful	Default	
1981	93.7	4.2	1.6	0.5	693.0
1982	93.1	4.7	2.0	0.2	1,128.1
1983	88.5	6.7	3.9	0.9	1,280.8
1984	81.1	9.9	6.4	2.6	1,255.5
1985	75.7	9.5	10.3	4.4	1,279.1
1986	75.3	7.8	10.9	6.0	1,226.4
1987	82.4	6.2	7.1	4.3	1,114.0

Source: Bank Indonesia.

Table 3: **Outstanding Credits through KIK and KMKP, Financial Years 1980/81-1986/87**
(Rp billion)

Credits	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87
KIK	249	376	414	387	356	326	311
KMKP	384	717	815	867	931	889	878
Total	633	1,093	1,229	1,254	1,287	1,215	1,189

Source: Bank Indonesia, *Report for Financial Year 1985/86* and *Report for Financial Year 1986/87.*

Table 4: **Cumulative KIK and KMKP Loan Approvals, 1974-1986**

Year	KIK				KMKP			
	Applications ('000)		Value (Rp billion)		Applications ('000)		Value (Rp billion)	
	Total	Industry	Total	Industry	Total	Industry	Total	Industry
1974	9.5	1.7	15.5	3.7	14.5	4.6	15.3	5.9
1975	16.6	2.9	28.1	6.2	23.9	6.5	28.7	8.9
1976	27.8	4.6	49.5	9.6	166.0	48.8	67.6	18.9
1977	39.6	5.7	74.2	12.9	322.3	77.3	114.8	29.1
1978	54.9	8.1	105.9	17.8	420.3	97.9	177.0	40.2
1979	71.9	10.2	162.7	25.4	643.9	135.5	304.4	61.8
1980	119.0	14.6	320.8	44.5	905.0	153.6	601.4	96.1
1981	172.9	18.9	540.0	68.0	1,270.0	175.1	1,123.8	152.6
1982	207.9	24.9	699.1	88.7	1,461.6	178.2	1,534.2	182.5
1983	231.8	27.4	811.7	102.2	1,631.5	187.5	1,883.6	212.9
1984	250.1	30.0	921.4	117.3	1,806.4	202.7	2,308.0	256.7
1985	266.0	32.4	1,014.9	131.8	1,996.1	214.7	2,767.9	296.8
1986	283.1	34.8	1,134.5	147.1	2,146.1	226.3	3,241.1	337.0

Source: Bank Indonesia.

Table 5: **Bank Credits to Economic Sectors, Financial Years 1980/81-1986/87**
(Rp billion)

Credits	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87
Working Capital	4,594	6,600	8,686	10,659	13,599	15,955	19,927
To Manufacturing	1,397	1,755	2,601	3,315	4,391	5,058	6,256
Investment	3,560	4,135	5,019	5,479	5,737	6,435	7,925
To Manufacturing	941	1,225	2,001	2,399	2,607	2,580	3,252
Total Credits	8,154	10,735	13,705	16,138	19,336	22,390	27,852
To Manufacturing	2,338	2,980	4,602	5,714	6,998	7,638	9,508

Source: Bank Indonesia, *Report for Financial Year 1985/86* and *Report for Financial Year 1986/87.*

Second, although in 1980 the ceilings for both KIK and KMKP loans were increased from Rp 5 million to Rp 15 million, the average size of loans did not rise significantly. Before 1980 the average size of loans to small industries through KIK was in the range of Rp 2.1-2.5 million while for KMKP it was Rp 0.5-1.3 million. Although the average loan size for KIK and KMKP had a tendency to increase between 1981 and 1986, it was in 1986 still considerably below the ceilings, i.e., in the range of Rp 3.6-4.2 million for KIK and Rp 0.9-1.5 million for KMKP.

Third, over the years the composition of the loans seems to have shifted toward working capital credits. For example, the share in value of KIK lending declined from around half in 1974-1975 to less than one third in the 1980s and about one fourth in 1986. For small industries, over the same period, the share declined from around two fifths to less than one third. This shift toward working capital can also be observed in bank lending (see Table 5): the share of investment credits in the total declined from nearly 44 per cent in 1980/81 to less than 30 per cent in 1986/87, while in the case of the manufacturing sector the share declined from around 40 per cent to 34 per cent.

Fourth, not only was the share of small industries in total lending to small enterprises low at the start but it declined sharply over time. The share of small industries in the total KIK and KMKP lending declined from 21 per cent in 1975 to 9 per cent in 1986 (see Table 6). More or less the same applies to KUPEDES as can be seen from Table 7. This pattern is in contrast to that of bank lending where the share of the manufacturing sector increased from 29 per cent in 1980/81 to slightly over 34 per cent in 1986/87 (see Table 5).

By far the KIK and KMKP program is the single most important source of subsidized credit to small industries and has considerably improved their access to institutional finance.[12] However, despite the impressive growth in

Table 6: **Shares of Small Industry in KIK and KMKP Loans, 1974-1986**
(Percentages)

	KIK		**KMKP**		**Total**	
Year	**Annual**	**Cumulative**	**Annual**	**Cumulative**	**Annual**	**Cumulative**
1974	23.9	23.9	38.6	38.6	31.2	31.2
1975	19.8	22.1	22.4	31.0	21.1	26.6
1976	15.6	19.4	25.7	28.0	22.2	24.3
1977	13.4	17.4	21.6	25.3	18.8	22.2
1978	15.4	16.8	17.8	22.7	17.0	20.5
1979	13.4	15.6	16.9	20.3	15.8	18.7
1980	12.1	13.9	11.5	16.0	11.7	15.2
1981	10.7	12.6	10.8	13.6	10.8	13.3
1982	13.0	12.7	7.3	12.0	8.9	12.1
1983	12.0	12.6	8.7	11.3	9.5	11.7
1984	13.8	12.7	10.3	11.1	11.0	11.6
1985	15.5	13.0	8.7	10.7	9.9	11.3
1986	12.8	13.0	8.5	10.4	9.4	11.1

Source: Calculated from Table 3.

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[12] For more detailed discussion of other sources of finance, see S. Grizzell, "Small Scale Manufacturing in Indonesia, What Works", Development Studies Project Research Memo No. 17 (March 1988), mimeographed. It has been argued that KUPEDES, while charging considerably higher interest rates (at annualized 32 per cent compared with 12 per cent for KIK and KMKP), faces a much less problem of arrears and defaults (at 2-3 per cent compared with 27 per cent for KIK and KMKP), even when the two loan programs are handled by the same bank, *ibid.*, p. 29.

Table 7: **KUPEDES Credit by Sectors, 1984-1985**

Year	Sector Allocation in Per Cent of Total Value				Total Value (Rp billion)
	Trade	Agriculture	Industry	Others	
1984	82.2	11.9	2.5	3.3	110
1985	70.7	25.8	1.7	1.8	229
1986	68.3	28.3	1.9	1.5	334
1987	67.1	27.8	1.9	3.2	429

Source: Bank Rakyat Indonesia.

absolute figures, total KIK and KMKP lending to small industries is not more than 5 per cent of the total bank credits to the manufacturing sector. Thus, small industries are still at a relative disadvantage in their access to institutional finance. While the number of cumulative loan approvals for small industries has increased considerably from less than 5,000 in 1974 to more than 225,000 in 1986, the number of industries receiving loans is still relatively small compared with the estimated 1.7 million small industry establishments.

To sum up, the value of additional loan approvals each year to small industries for KIK and KMKP had increased rapidly from less than Rp 10 billion in 1974 to a record Rp 80 billion in 1981, but subsequently throughout 1982-1986 fluctuated around Rp 44-59 billion with an average of under Rp 53 billion. As the value of production at current prices continued to increase and reached more than Rp 8.8 trillion by 1986 (see Table 11), it may be inferred that not only most, but an increasing proportion, of the financing for small industries had to be obtained from other sources.[13]

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[13] Established small industries may have no significant problem in obtaining financing from traditional sources such as moneylenders or, for those with sufficient collateral, from the banking system, although the interest rates charged are much higher.

Policy and Guidance

Responsibility for formulating policy and providing guidance to small industries rests with the Ministry of Industry, although other ministries and some non-governmental organizations have been involved in providing assistance. Small industries are considered to be relatively weak from the viewpoint of marketing, financing, technology and skills. Accordingly, policies and measures adopted include guidance in marketing, technical and managerial aspects and through *sentra* as well as development and cooperation programs.[14]

Guidance. The provision of guidance can be regarded as an attempt to alleviate production and marketing constraints on the development of small industries. In the 1950s *induks* or principal units around clusters (primarily in the weaving industry) were established to provide cooperative-type assistance. During the 1960s a system of subsidies was developed for lowering the cost of inputs to small industries. In 1975 BIPIK (a guidance and development project for small industries) was launched to provide a coordinated program of assistance to more than 1,500 *sentra* out of some 6,000 that have been identified nationally, providing general and extension services, training, common service facilities, and subsidized or bulk purchases of inputs and machines. Later, the concept of *bapak angkat* (foster parent relationship), whereby larger industries provide assistance which may take the form of business management, supply of inputs, financing, technology transfer, and subcontracting arrangements, was developed. Since 1985 the President has awarded UPAKARTI to those who have earned the merit for dedication or pioneering work on the basis of general recognition, by the small industries concerned, of their accomplishments in enhancing the development of small industry.[15]

Marketing: Since it has been recognized that the existence of a small industry is dependent on its ability to sell products, marketing has been given top priority, and a program has been devised to create or assist the development of reliable or assured markets for products of small industries through interindustry linkages and government procurement.[16] A linkage program has been developed between the small industries, on the one hand, and the larger industries, exporters, department stores and supermarkets, on the other, in order to facilitate marketing as well as to provide technical and managerial assistance; to assist in getting cheaper raw materials or intermediate products; to help access to credit; and to facilitate technology transfer. Products that are given priority in the linkage program are those which have good prospects of developing mutually advantageous linkages (such as food, garments and textiles, leather and footwear, components, agricultural implements, building materials, sports goods, educational equipment and materials, and musical instruments) and for exports (such as precious stones, silverware, and wood and shell handicrafts).

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[14] *Sentra* are groupings or clusters of similar types of industries that have developed "naturally" in the same location.

[15] UPAKARTI is a special presidential award given annually to those who have helped foster the development of small industries. So far 99 awards have been granted, including for the pioneering work of five research and development institutes, viz., Institutes for Research and Development of Leather, Rubber and Plastics; of Ceramics; of Handicrafts and Batik Industries; and of Agro-based Industries; and the Metal Industries Development Centre.

[16] Even when domestic or export markets exist, more often marketing has been done through a chain of middlemen. The program has also been designed to shorten the chain, thereby augmenting the incomes and lessening the vulnerability of small entrepreneurs.

A special program has been developed to create greater linkages with state enterprises so that small industries through vendor development, subcontracting or procurement programs can produce certain commodities (such as metal products, plant and equipment, spare parts, working apparel, shoes and gloves, furniture, office equipment, and building materials) for these enterprises; to assist in the production and promotion of certain products (such as handicrafts, rattan and wood products) as well as in the manufacture of equipment (such as agricultural implements, machinery for processing of essential oils, coconut shell, rubber, nutmeg and coffee, and diesel components); and to enable small industries to obtain higher earnings from exports through production and marketing assistance.[17] The value of procurement by state enterprises through the linkage program has continued to increase considerably during 1984-1987 (see Table 8).

Technical and Technological Aspects: To ensure effective implementation of the linkage program, especially for those products requiring higher quality and precision, assistance is needed for obtaining the right materials and appropriate equipment as well as in training and increasing the technological capability of small industries. An assistance program to alleviate the production constraint has been formulated primarily through the development of *sentra*, while over 20 research and testing laboratories and institutes in the Ministry of Industry have been actively involved in providing assistance as well as consulting services.[18] Some state enterprises are also assigned the responsibility of providing technical assistance and ensuring the availability of raw materials and quality control. Skills training programs have been undertaken in cooperation with state and private institutes, universities and consultants, and are also provided by the Ministry of Manpower through its numerous vocational

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[17] Through this program, the state enterprises help to secure stable supplies of inputs, on the one hand, and to develop distribution and marketing networks as well as export outlets, on the other, thereby shortening the chain of middlemen and preventing undue volatile price fluctuations that adversely affect small industries.

[18] Recently, the Ministry of Industry and the United Nations Development Programme (UNDP) signed an agreement whereby Lembaga Kewirawastaan Industri (Industrial Entrepreneurship Institute) will identify appropriate investment opportunities and provide required information to interested entrepreneurs. It builds on the strength of the Ministry in collecting and disseminating information and leaves actual implementation to the private sector.

Table 8: **Value of Procurement by State Enterprises from Small Industries, 1984-1987**
(Rp million)

Groups of State Enterprises	**1984**	**1985**	**1986**	**1987**
Fertilizer	2,547	7,072	10,586	13,429
Cement	2,046	1,674	5,886	6,036
Steel	136	1,778	3,563	9,016
Textile	654	1,876	1,595	9,102
Paper	3,574	2,613	3,041	3,032
Miscellaneous Industry	744	943	2,137	3,961
Gas	40	93	521	1,350
Automotive	—	1,106	1,344	1,131
Machineries	1,775	4,705	5,293	10,918
Shipping	—	1,458	1,456	4,110
Engineering	—	324	300	1,735
Services	—	487	330	1,355
Total	11,516	24,129	36,052	65,175

— = nil.

Source: Ministry of Industry.

training centers.[19] Efforts to ensure continuous and adequate availability of standard quality materials have been made through the linkage program and in cooperation with government agencies.

Managerial Aspects: Programs to develop the managerial capability of entrepreneurs in small industries have been undertaken in cooperation with management institutes and universities. These are in addition to those mentioned above.

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[19] The Ministry of Manpower has also attempted to assist in the development of small enterprises by adding small business management to its ongoing skills training program which was originally designed to train people to work in large and medium industries. An attempt to integrate the subsidized credit program, through the signing of an agreement to provide KIK and KMKP loans to graduates of the skills training program, was initiated in 1984, and there is also a program to train ex-volunteer workers and provide them with skills to establish their own small businesses.

The Development of Sentra: Based on an evaluation of earlier experience, since the Third Five Year Development Plan (1979/80-1983/84), assistance for the development of small industries has been given primarily through the *sentra.* Since there are similar types of small industries in the *sentra,* it is much easier and more effective to provide assistance through these structures since heavy expenditures are not required to build a new organization; benefits could be directly shared, for example, to meet orders for production and supply of inputs; the family-type of management can be retained; and the well-being of the rural areas could be improved.

Out of some 6,000 *sentra,* those that received assistance and guidance during the Fourth Five Year Development Plan (1984/85-1988/89) reached a cumulative total of 1,322 in 1984, 1,562 in 1985 and 3,313 in 1986 (see Table 9). Most are in food industries (27 per cent), followed by crafts (22 per cent), clothing and leather (20 per cent), chemicals and building materials (18 per cent) and metals (13 per cent). In an effort to improve product quality, machinery and equipment that are beyond the reach of individual enterprises are usually provided in the *sentra* for common use through the establishment of common service facilities or technical service units.

Besides providing services in regard to production (including design and engineering), these units also help to improve managerial capability and skills, and are operated by extension service officers to help in design and transfer of technology. To strengthen their marketing ability, procurement of materials and spare parts, access to credit and the undertaking of related activities such as packaging, the enterprises in the *sentra* formed cooperatives (KOPINKRA) which numbered 1,019 in March 1988 (see Table 10). These cooperatives were to receive guidance and assistance from the Ministries of Industry, Cooperatives and Manpower.

The *sentra,* and KOPINKRA within the *sentra,* are effective means for assisting the small manufacturers to develop skills and managerial capability; to absorb technology and enhance their capacity for modification and innovation; to facilitate coordinated and cooperative effort in production and purchasing of inputs; and to overcome production and marketing constraints that are normally faced by small industries. Together with the programs dealing with marketing, technical and technological, and managerial aspects mentioned above, the capability of small enterprises can be strengthened and their access to credit can be improved. On the whole, they may be considered as an essential component of institutional development involving a large number of small private enterprises and cooperatives.

Program for Development. The program directed toward enhancing the development of small industries includes efforts to continuously improve the business climate, by according protection and providing facilities whenever needed, so as to create a strong basis for the continued existence and growth of small industries and preventing unfair competition from larger industries. For this

Table 9: **Cumulative Total of Sentra Receiving Assistance and Guidance by Types of Industries and Region, 1986/87**

Region and Province	**Industries**					**Total**
	Food	**Clothing and Leather**	**Chemicals and Building Materials**	**Crafts**	**Metals**	
Sumatra	190	108	127	194	98	717
Java and Bali	439	402	294	322	204	1,661
Kalimantan	82	30	28	60	28	228
Sulawesi	124	87	87	76	48	422
Other Regions	72	47	70	63	33	285
Total	907	674	606	715	411	3,313

Source: Ministry of Industry.

Table 10: **Number of Cooperatives of Small Industries (KOPINKRA) by Region, March 1988**

Region and Province	**Number of Cooperatives**
Sumatra	88
Java and Bali	680
Kalimantan	55
Sulawesi	196
Total	1,019

Source: Ministry of Industry.

purpose, the government has adopted a reservation scheme, the issuance of industrial permits has been simplified, and those with investment (for machinery and equipment) of less than Rp 10 million are expected to register and are not required to obtain a permit.

Cooperation Program. Efforts have been made to undertake cooperation programs with government agencies as well as the private sector to ensure a comprehensive or integrated approach in the solution of problems related to marketing, continued and adequate supplies of required inputs, financing, skills improvement and managerial aspects. Cooperation with the Ministries of Manpower and Cooperatives has been aimed at ensuring the consolidation and strengthening of KOPINKRA; with the Ministries of Agriculture, Forestry, and Mining and Energy at overcoming problems of raw materials supply and marketing; and with the banking system at solving financing problems. Cooperation with the private sector is primarily directed toward enhancing mutually needed and advantageous relationships, so that the larger industries could assist in the development of small industries. Cooperation with external bilateral and multilateral agencies has facilitated assistance, among other things, in the form of experts, equipment for the common service facilities and study tours.

However, many problems still remain in regard to: (i) marketing, where most of the small industries still lack the ability to market products directly or reduce long marketing chains because of technical difficulties such as low productivity and heterogeneity of quality and the problem of responding quickly to market demand such as in relation to design; (ii) capital, where most of the small industries still are unable to obtain loans from financial institutions due to inability to satisfy bank requirements, the unclear status of the small enterprises and legal problems in regard to ownership; and (iii) production, where there are problems related to productivity, quality, precision, and meeting standard requirements due to the use of traditional production techniques and simple capital equipment and with respect to inputs such as reliability and continuity of supply, quality and prices. In overcoming these problems the linkage program, intensive development of the *sentra*, and greater cooperation with government agencies, the banking system and larger private enterprises have been emphasized. Despite these problems, considerable progress has been made in terms of units of production, workers employed and the value of production and exports (see Table 11).

Support of Research and Development Institutes

Small and medium industries vary, among other things, in their use of technology and equipment, levels of skills and literacy of workers and ability to absorb or process information. Certain manufacturing aspects that are important for increasing productivity or efficiency in production or for improving marketability or quality of products may be obvious for some but cannot be taken for granted in the case of others.[20] In some cases, assistance is required in dealing with the day-to-day manufacturing problems.

In order to alleviate production or marketing constraints, improve general production conditions or the ability to meet specified requirements, and to help solve problems at the factory level, it may be important for small and medium industries to have access to the services of research and development institutes or testing laboratories. Experience in Indonesia suggests that such access is useful and necessary. In this connection, it may be noted that within the Ministry of Industry, in the Agency for Industrial Research and Development, there are sectoral research and development institutes as well as regional testing laboratories throughout the country. These institutes and laboratories

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[20] These aspects may include, among other things, the use of acquired skills from training for actual production; the ability to translate complex design and engineering drawings or specifications to ensure that manufacturing activities could be properly carried out by unsophisticated workers; the selection or combination of proper materials; procedures and logistics for meeting delivery schedules; standard, testing and quality control; preventive maintenance or identification of potentially troublesome problems; appropriate layout or design of equipment; modification, improvement or innovation in regard to product or process technology; and reverse engineering.

Table 11: **Number of Production Units and Workers and Value of Production and Exports of Small Industries, 1984-1986**

	Number ('000)		Value	
Year and Activities	**Production Units**	**Workers**	**Production (Rp billion)**	**Exports ($ million)**
1984				
Food	506	1,522	2,146	10
Clothing and leather	218	727	1,390	123
Chemicals and building materials	290	1,085	2,016	41
Crafts	477	1,094	523	40
Metals	80	274	809	—
Total	1,571	4,702	6,884	214
1985				
Food	539	1,721	2,470	9
Clothing and leather	219	793	1,516	156
Chemicals and building materials	313	1,229	2,333	38
Crafts	507	1,207	633	44
Metals	87	309	916	—
Total	1,665	5,259	7,868	247
1986				
Food	557	1,768	2,666	10
Clothing and leather	226	830	1,752	198
Chemicals and building materials	316	1,250	2,476	42
Crafts	529	1,272	798	77
Metals	91	321	1,125	—
Total	1,719	5,441	8,817	327

— = nil.

Source: Ministry of Industry.

undertake essentially applied industrial research and development and provide technical services as required by the industries concerned.[21]

In general, the research and development activities are in such fields as technology and production techniques, design and engineering, standardization, product design, and industrial problems. Technical services provided to industries include testing of products and materials, application of research, quality improvement or control and quality assurance, consultation and extension services and training, and design and engineering.

Most of the services are for the benefit of small and medium industries.[22] Unless specifically supported by the state budget, the services are financed by a contract with the industry concerned.[23] In many cases, these services are essential to support the implementation of the linkage, subcontracting and vendor development programs mentioned earlier. Some services are obtained to ensure that the small and medium industries can produce goods that meet the requirements for specific purposes, to improve quality of products, to undertake quality control at the plant level, and to undertake the design and engineering of equipment or simple machines used by small and medium industries.

A Notable Case: Bali

In the literature dealing with small and medium industries, much has been said about the problems and difficulties and the inherent weaknesses of these industries. The exponential growth of garment exports from Bali (and its impact on employment, income and equity), which rely more on human resources and information knowledge than on any other inputs, including natural resources, suggests however that small and medium industries can have a dynamic potential.[24] The case of Bali is notable because the small and medium indigenous enterprises have successfully become the actors in generating the boom in relatively high-value garment exports without upsetting the existing culture and apparently without requiring direct subsidies.

Between 1981 and 1986, total exports from Bali increased from less than $8 million to nearly $37 million; garment exports grew from about $2 million to over $21 million.[25] While garment exports from Bali amounted to less than 5 per cent of the total value for Indonesia, Bali accounted for more than one third of exports transported by air. Furthermore, of the apparel exports that could be classified into male and female categories, almost all exports from Bali belong to the female category.

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[21] The institutes and testing laboratories can perform the testing of materials and products; some are authorized by the Ministry of Industry and the Ministry of Trade to certify that the products concerned meet the requisite standards or specifications, including requirements for export. The regional testing laboratories, on the other hand, also undertake research and development activities, usually to meet the needs of the industries in the regions concerned. Specific activities may be carried out by one or more of the institutes and laboratories through joint efforts or networking.

[22] The Institute for Materials and Technical Products, for texample, also serves large-scale industries, including those in the oil and gas sector. The Metal Industries Development Centre has also assisted steel industries in production control and quality improvement of prefabricated steel structures.

[23] Financing through a contract consists of reimbursable costs and fees.

[24] The discussion draws on K. Chomitz and D. Wheeler, "The Boom on Bali: Implications for Research and Policy", Development Studies Project Research Memo No. 6 (November 1986), mimeographed.

The development of garment exports from Bali may indicate its comparative advantage since the export segment of high-value female garments is fashion-oriented. Much of the success may be attributed to contacts with foreigners, which facilitate easier translation of fashion trends into local designs or innovation, and to the support of infrastructure facilities. Considerable investment in infrastructure has of course produced direct benefits; for example, containerized jet cargo services have made it possible to export time-sensitive high-value garments, while, because of the availability of communication services, telefax is routinely used to coordinate the production of fashion-oriented garments with changes in overseas market demand. The large number of tourists provide a wealth of information on current fashions as well as easily accessible test markets for innovation in new products and designs, while the tourist shops can also be used as a convenient place to sell production overruns. Apparently, these direct and indirect benefits constitute an important component not only of the static, but also dynamic, comparative advantage so that small and medium industries in Bali can produce labor-intensive and information-intensive products, export efficiently, and compete in higher value markets where shorter product life cycles, rigorous quality control and tight delivery schedules are standard features.

The boom in higher value exports from small and medium industries under indigenous ownership and management has brought significant increases in rural employment and incomes. Indicative employment statistics suggest that between 1980 and 1985 manufacturing employment in Bali increased by 70 per cent compared with the national average of 24 per cent. Manufacturing workers amounted to nearly 13 per cent of all workers compared with the national average of around 9 per cent. Since most of the workers reside in rural areas, over 13 per cent of the working rural population was in manufacturing compared with the national average of 8 per cent.

There are other cases such as Bali which indicate that with the appropriate environment and the availability and use of information knowledge, the development of small and medium industries in general, and of their exports in particular, can be quite rapid. Through a linkage program, the supply of information on products for the domestic markets or for exports can be made available much more easily. Also, with the support of research and development institutes such information can be simplified involving various manufacturing aspects that can be properly handled by small and medium industries, thereby alleviating their production and marketing constraints. Through cooperation with foreign buyers or distribution networks, the proper information on marketable export products can be assured.

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[25] The figures do not include the values of goods carried or shipped by tourists.

Concluding Remarks

Size distinction among establishments has commonly been made on the basis of certain numerical criteria (such as in regard to the number of persons employed, investment and capital assets), which in some countries may also be translated into a legal definition. The criteria defining small (and cottage), medium and large-scale industries can differ among countries, and even within the same country over different periods or across industry classifications. These differences pose problems for empirical, especially intercountry, analysis, and quantitative evidence is hard to come by. On the other hand, it may be argued that rigid or uniform boundary lines are not always necessary since what is at issue, at least in economic terms, is not the proper and precise definition, but whether size distinction has any significance at all.

In the real world, differences in size are likely to involve discrepancies not only in the initial condition of the firms but also in the circumstances affecting their economic behavior and performance. Some of these discrepancies are natural, such as in regard to the ability to mobilize resources or to generate or exploit information, technological progress or innovation. Some are the unintended by-product of policies which tend to favor the larger scale establishments. The lack of access to credit from financial institutions is often mentioned as a serious constraint on the development of smaller firms.

From what is known, and depending on the level of disaggregation, there has been no conclusive empirical evidence to suggest that smaller firms are inherently more or less efficient, or whether they have greater or lower capital or labor intensity. Hypothetically, it may be suggested that for certain lines of activities smaller establishments can have potential comparative advantage vis-à-vis the larger ones, although in practice it may not be fully realized given the policy environment. While some have argued in terms of social, equity or political considerations, or in order to protect and foster the weaker economic group, there is also economic rationale for promoting the development of smaller establishments. In this regard, there is merit in treating the small and medium industries as a separate category, to be distinct from the cottage industries, on the one hand, and the large industries, on the other.

As indicated earlier, the active promotion of small and medium industries is desirable from economic considerations if it represents a more efficient allocation of scarce resources and also from political and social considerations if it contributes toward the creation of employment opportunities especially for the unskilled, the generation of income particularly for the low-income groups, and better equity. It is also necessary when for one reason or another the economic environment contains biases that discriminate against small and medium industries. Efforts to alleviate these biases have merit in helping to establish a more labor-absorbing pattern of industrialization, especially when the labor-intensive establishments have inherent comparative advantages.

Indonesia, like many other countries, has continued to adopt policies and measures to actively promote the development of small industries as described in this article. Policies have been implemented in support of the development of small industries, but there is no specific policy directed toward medium-scale industries as these are subject to more general sectoral policies.

Based on the experience of Indonesia and other countries, it appears that policies favoring the development of small and medium industries can yield positive economic and social impact. Small and medium industries are, of course, very large in their numbers and diverse in their lines of activities, and it should not be expected that there could be a simple and universal policy applicable to all. But, in general, policy may be directed at eliminating or alleviating biases that discriminate against, or creating a conducive environment for, the development of small and medium industries; developing infrastructure, including technological infrastructure, and providing services to enable these industries to realize their fullest potential; facilitating access to credit from financial institutions, which some have considered more important than the provision of subsidized credit; and devising special programs for specific purposes.

The Development of Small and Medium-Scale Industries in Thailand

Medhi Krongkaew*

There is no dearth of arguments in favor of promoting small and medium-scale industries in the process of national economic development. In a classic textbook on small and medium industries in developing countries up to ten areas were listed in which these industries could contribute positively to national economic development.[1] These areas included, for example, the development of entrepreneurs and managers, the formation of capital assets, the saving of capital, the creation of employment and the geographical spread of industrial development. Another study asserted that the promotion of small and medium industries was justified because they served two major development objectives: the social objectives of stimulation of indigenous entrepreneurship, transformation of traditional industry, and creation of employment; and the economic objectives of dispersal of industry, diversification of industrial structure and increased utilization of resources.[2]

Yet, despite the development potentials attributed to small and medium industries, relatively little is known about their performance compared with that of large-scale industries. Moreover, it seems that in most developing countries, relatively little attention is being paid to the promotion of these industries compared with large-scale industries. It is well known that small and medium industries are in general labor intensive which, if correctly developed, could help alleviate unemployment or re-employment problems. However, policymakers and planners may opt for the fast income-generating large-scale industries in their choice of industrial promotion, thus creating disparities and unbalanced development evidenced in many developing countries. International organizations such as the Economic and Social Commission for Asia and the Pacific (ESCAP), the International Labour Organisation (ILO), the World Bank and the Asian Development Bank have recognized these problems and have been trying, though sporadically, to generate interest and provide financial support to the study and promotion of small and medium industries.

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[1] Eugene Staley and Richard Morse, *Modern Small Industry for Developing Countries*, International Student Edition (Tokyo: McGraw-Hill, 1965).

[2] United Nations Industrial Development Organization (UNIDO), *Small Scale Industry*, UNIDO Monographs on Industrial Development, no. 11 (New York: United Nations, 1969). See also Mathias Bruch and Ulrich Hiemenz, *Small and Medium Scale Industries in the ASEAN Countries: Agents or Victims of Economic Development?* (Boulder and London: Westview Press, 1984); and Seiji Naya, *Small-Scale Industries in Asian Economic Development: Problems and Prospects*, Economics Office Report Series, no. 24 (Manila: Asian Development Bank, February 1984).

The main purpose of this article is to describe and analyze the status and development of small and medium industries in Thailand. It first provides an overview of the industrialization process and the part played by these industries. It then discusses in more detail the macroeconomic aspects of these industries in industrial development and the national economy and the microeconomic characteristics of manufacturing establishments. This is followed by a detailed account of public policies for small and medium industries. Finally, the article stresses the importance of a total policy commitment in creating a conducive environment for the successful development of small and medium industries.[3]

Industrialization and Economic Development in Thailand: An Overview

The modern era of the economy of Thailand is said to have begun with the launching of its first National Economic Development Plan in 1961. Prior to that, the economy was growing at a rate of 2-3 per cent a year (in real terms) with rice being the most important crop in terms of both productive contribution to the domestic economy and export. A few other crops and minerals, viz., rubber, maize, kenaf, teak and tin, were also major foreign exchange earners. Dissatisfied with this somewhat low-level equilibrium and with increasing pressure from a very high population growth rate at that time (over 3 per cent), the government decided to play an active role in a planned and systematic process of economic development. While the government would provide the necessary infrastructure and reorganize government agencies to facilitate orderly economic transformation, it would also encourage the private sector to engage in productive investments and transactions.

This basic development philosophy, i.e., the provision of infrastructure and guidance with incentives for private initiatives, seemed to work well for Thailand as the economy grew very rapidly during the early phases of economic development. The growth rate of gross domestic product (GDP) between 1960 and 1970 averaged about 7.9 per cent per annum (see Table 1). Only a few countries in

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[3] Due to a lack of data, this article discusses small and medium industries in the context of the overall economic development of Thailand rather than in terms of a detailed economic analysis of small and medium industries as a whole. Several studies have been conducted on or about small and medium industries in Thailand, particularly by the Industrial Finance Corporation of Thailand. However, these deal mainly with selected industries at the disaggregated firm level rather than the industry level. In fact, there are virtually no industry-level studies at present. This article strongly recommends that such studies be undertaken.

Table 1: **Growth of Production by Sector, 1960-1986**
(Percentages)

Item	1960-1970	1971-1980	1981	1982	1983	1984	1985	1986
Agriculture	5.5	4.3	6.8	1.0	3.4	4.1	3.8	2.2
of which crops	4.6	4.5	8.0	2.4	3.4	3.3	3.6	1.4
Industry	10.9	9.3	3.8	3.0	6.7	8.3	4.4	5.0
of which manufacturing	10.5	10.1	6.4	4.4	7.3	6.8	2.3	4.7
Services	8.4	7.3	7.7	6.4	6.4	5.3	5.5	5.5
Gross Domestic Product	7.9	6.9	6.3	4.1	5.8	6.0	4.1	4.3

Note: 1960-1970 in constant 1962 prices; 1971-1986 in constant 1972 prices.

Source: National Economic and Social Development Board.

the world achieved such a high rate of growth during the period. Industrial activities which included manufacturing grew the fastest at 10.9 per cent per annum, but agricultural growth was lower at 5.5 per cent though higher than the historical trend. The services sector benefited from the agricultural and industrial growth, with banking enjoying the highest growth rate.

However, during the second decade of planned development, the overall economic growth slowed down, with the GDP growth rate during 1971-1980 averaging about 6.9 per cent per annum. Still, this was a very high rate of growth, with all sectors performing reasonably well though at lower growth rates. As a result of the world recession in the early 1980s, the GDP growth of Thailand also suffered. During 1985 and 1986, the growth was less than 4 per cent, which was among the lowest growth rates in the modern economic history of Thailand. But it is still considered satisfactory, especially during a time when many of the high-growth countries had experienced zero or even negative growth rates. The high growth returned in 1987, and in 1988 the economy is expected to grow faster than 8 per cent.

The economic transformation between agriculture and industry can be said to have started before the First Plan, but the process accelerated when the economy entered the modern era in 1961. In 1960 the share of agriculture in total GDP was estimated at about 39.8 per cent (see Table 2). This share was progressively reduced to 28.3 per cent in 1970, 25.4 per cent in 1980 and 17.5 per cent in 1985, while the share of industry increased from 18.2 per cent in 1960 to about 29.8 per cent in 1985, with manufacturing being the most important in the industrial sector. Based on this simple index of relative contribution, the share of the manufacturing subsector in GDP since 1980 has surpassed that of agriculture.

Nevertheless, while the share of the industrial sector in GDP continued to increase, this growth in production and income was not commensurately matched

Table 2: **Sectoral Distribution of Production in Gross Domestic Product at Current Market Prices**
(Percentages)

Item	**1960**	**1970**	**1980**	**1984**	**1985**
Agriculture	39.8	28.3	25.4	19.5	17.5
Crops	29.6	19.7	19.0	14.3	12.7
Others	10.2	8.6	6.4	5.2	4.8
Industry	18.2	25.3	28.4	29.1	29.8
Mining and quarrying	1.1	2.0	2.1	2.1	2.8
Manufacturing	12.5	16.0	19.6	19.8	19.8
Construction	4.2	6.1	5.8	5.3	5.1
Electricity and water supply	0.4	1.2	0.9	1.9	2.1
Services	42.0	46.4	46.2	51.4	52.7
Gross Domestic Product	100.0	100.0	100.0	100.0	100.0

Source: National Economic and Social Development Board.

by the growth in industrial employment. In other words, the economic transformation from agriculture to industry mainly applied to value added and not to employment. Despite more than two decades of development and transformation, an overwhelming proportion of the population was still engaged in agriculture (see Table 3). For example, the census data showed that in 1960, the agriculture sector accounted for 82.4 per cent of the population and manufacturing for only 3.4 per cent. In 1980 the proportion of the agricultural population was still very high at 72.5 per cent. The latest labor force survey in 1985 estimates the proportion of the agricultural population at 68.4 per cent and the industrial population at about 10.7 per cent while the share of industry in GDP

Table 3: **Economically Active Population 11 Years of Age and Over, by Sector, 1960, 1970, 1980 and 1985**
(Percentages)

Sector	**1960**	**1970**	**1980**	**1985**[a]
Agriculture	82.4	79.3	72. 5	68.4
Mining	0.2	0.5	0.2	0.3
Manufacturing	3.4	4.1	5.6	8.0
Construction	0.5	1.1	1.6	2.0
Public Utilities	0.1	0.1	0.3	0.4
Commerce	5.7	5.3	7.4	9.2
Transportation	1.2	1.6	1.8	2.0
Services	4.8	7.1	7.9	9.4
Others	1.7	0.9	2.7	0.1
Total	100.0	100.0	100.0	100.0
Number ('000)	3,749	16,652	22,867	..

.. = not available.

a Labor Force Survey 1985.

Note: Figures may not add to totals because of rounding.

Sources: *Population Census* 1960, 1970, 1980; *Labor Force Survey* 1985.

was almost two thirds more than that of agriculture. This imbalance will continue to create difficulties in the adjustment and development process of the economy.[4]

The industrialization process in Thailand does not differ greatly from that in other Asian developing countries. The emphasis in the first phase of industrial development was on import substitution. Private investment both from within and outside the country was actively promoted through investment promotion packages which included tax holidays, import tax exemptions, and tariffs to protect domestic industries. This policy coupled with extensive public outlays in infrastructure enabled import-substitution industrial development to expand during the first ten years after the First Plan (see Table 1). However, the limited domestic market would eventually slow down this expansion. There was therefore a need to extend beyond the substitution of consumer goods to include intermediate and capital goods, or to extend the market overseas. This stage of industrialization, however, would require higher technological capabilities and more efficient production and management.

Thailand did not pursue this second-stage import-substitution strategy wholeheartedly. Instead, it followed an export-oriented industrialization strategy as adopted by the East Asian developing countries. Since 1972 the government improved its incentives for exports of industrial manufactures. These incentives included, among other things, drawbacks or rebates of taxes on raw materials used for export products, rediscount facilities for exporters and special investment promotion for export manufacturing. Through skills adaptation and low domestic costs, exports enjoyed a comparative advantage over many competitors resulting in tremendous export-led growth in about the last ten years. Many manufactured export items such as garments, shoes, jewelry and processed food products were new items hardly exported a decade ago.

Other factors contributing to the success of exports included the benefits from increased protectionism of member countries of the Organisation for Economic Co-operation and Development (OECD), particularly regarding textile products from Asian newly industrializing countries (NICs) such as Hong Kong and the Republic of Korea. These benefits were mainly in the form of excess demand in the OECD countries unmet by the restricted exports of the Asian NICs under the Multi-Fiber Arrangement. However, as the Thai currency (baht) was tied closely to the U.S. dollar, the low dollar value helped boost exports.

Thus, in the 1980s, Thailand advanced at a very fast pace toward increased industrialization. With GDP originating from manufacturing exceeding that from agriculture, Thailand could well be qualified to be a NIC or at least a near-NIC.

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[4] It may be pointed out that the proportion of the agricultural population was taken from the survey during the planting season which tends to overstate the predominance of agricultural employment, especially in the recent experience of increased off-farm employment of the rural labor force. However, this overstatement is not believed to be serious.

But, as mentioned earlier, labor absorption in the industrial sector still leaves much to be desired. Industrialization in Thailand simply created a negative tradeoff between growth and employment. The urgent task at hand is the generation of more employment while at the same time maintaining a reasonable rate of growth. Here, the role of small and medium industries becomes relevant as these industries could generate income through essentially labor-intensive strategies and activities.

Relative Position of Small and Medium Industries

In this article, a small industry is defined as that which employs 10-49 workers, a medium industry 50-99 workers, a medium-large industry 100-199 workers and a large industry 200 and over workers.[5] This definition is not perfect but it serves as a convenient benchmark to analyze the effect of the size of employment on the performance of a firm.

Tables 4, 5 and 6 present a total picture of industrial firms of various sizes, measured by the number of workers employed in each establishment, in 1974 and 1984. The data in Table 4 are the official number of factories registered with the Ministry of Industry as required by law. But those factories which employ less than 7 workers or utilize machinery of less than 2 horsepower are exempt from registration. Thus, there is a built-in underestimation of the size of cottage or household industries.

Between 1974 and 1984 the total number of factories of all sizes in the country increased by more than 100 per cent from 18,659 to 40,784, or at an average rate of increase of about 11 per cent per year (see Table 4). It is interesting to note that large-scale factories had the highest increase among firms of all sizes (about 2.9 times). Moreover, the number of these factories in Greater Bangkok increased the fastest by over 300 per cent, which confirms that Greater Bangkok is the preferred location for large-scale factories. The increase of small and medium factories in Greater Bangkok was also slightly greater than that in other regions but not as striking as that of large-scale factories.

Table 5 shows the percentage distribution of factories of various sizes in each region. It seems that the relative distribution of factories in all regions was quite uniform, i.e., more than half or up to two thirds of all factories in all regions were of the cottage industry type and around 30 per cent would be small-scale factories. Again, Greater Bangkok was in contrast to the other regions. Whereas the shares of small, medium and large industries increased and the share of cot-

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[5] This definition is in keeping with that used by Saeng Sanguanruang et al, which set the standard for the studies that followed. See Saeng Sanguanruang, Nisa Xuto, Preeyanuch Saaengpassorn, and Chucheep Piputsitee, ***Development of Small and Medium Manufacturing Enterprises in Thailand***, ADIPA Research Project, vol. 1, Main Report (Bangkok, December 1978).

Table 10: **Source of Funds for Current Operating Capital by Size of Employment**
(Percentages)

	Size of Employment					
Source of Funds	**Less than 10**	**10-49**	**50-99**	**100-199**	**200 and over**	**Total**
Personal funds	86.2	66.7	59.2	67.8	62.1	64.2
Unorganized markets	9.4	20.0	21.3	14.3	14.8	17.2
Relatives and friends	4.2	8.9	9.3	7.1	0.6	5.7
Chit funds	0.9	2.5	1.9	0.2	12.2	5.2
Business contacts	0.3	6.5	7.5	4.7	1.9	4.7
Other	4.0	2.1	2.7	2.4	—	1.6
Organized markets	4.5	13.3	19.4	17.9	23.1	18.6
Commercial banks	4.5	11.8	17.3	15.8	22.9	17.3
Finance companies	—	0.5	1.8	1.2	—	0.7
Small Industry Finance Office	—	0.3	0.1	—	—	0.1
Industrial Finance Corporation of Thailand	—	0.8	0.2	0.9	0.2	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

— = nil.

Note: Figures may not add to totals because of rounding.

Source: Saeng Sanguanruang, Somsak Tambunlertchai, and Nit Sammapan, *A Study of Small and Medium Scale Industries in Thailand* (Bangkok: National Institute of Development Administration and Faculty of Economics, Thammasat University, 1977), mimeographed (in Thai). Translated into English by the World Bank, Bangkok Office, September 1977.

Table 11: **Performance Indicators of Industries by Size of Employment**

Size of Employment	**Fixed Assets per Worker (Capital Intensity) (Baht '000)**	**Production Value per Worker (Baht '000)**	**Value Added per Worker (Labor Productivity) (Baht '000)**	**Ratio of Value Added to Fixed Assets (Capital Productivity)**	**Ratio of Value Added to Production Value**	**Profit per Worker (Baht)**
Less than 10	79.6	85.5	22.5	0.28	0.26	1,600
10-49	63.2	102.6	29.2	0.46	0.28	11,100
50-99	70.5	156.8	46.6	0.66	0.30	26,600
100-199	85.4	157.8	51.9	0.61	0.33	28,600
200 and over	185.3	226.4	80.1	0.43	0.35	50,400
Total	111.6	165.2	54.0	0.48	0.33	30,500

Source: Saeng Sanguanruang, Somsak Tambunlertchai, and Nit Sammapan, *A Study of Small and Medium Scale Industries in Thailand* (Bangkok: National Institute of Development Administration and Faculty of Economics, Thammasat University, 1977), mimeographed (in Thai). Translated into English by the World Bank, Bangkok Office, September 1977.

It is interesting to note that the medium industries (employment size of 50-99) had the highest value added to fixed assets ratio. As indicated above, the capital intensity of industries of this size was lower than that of larger industries, and it was concluded that the intensive use of capital input had led to a higher average labor productivity. However, the average capital productivity indicates that capital inputs were *not* more productively used in capital-intensive industries. In regard to the relative addition of production value, the data indicate that the larger the firm the greater its contribution to the growth of the economy measured by the increase in value added.

The indicator of profit per worker shows a rising trend with increased size of industries. However, this does not necessarily imply that larger enterprises were always more efficient than smaller enterprises. As indicated earlier, larger firms were more likely to receive investment promotion privileges than smaller firms. These privileges led to lower costs of production, thus higher profit for the same unit of labor used. Moreover, since the production values were calculated in market prices, the higher profits of larger enterprises might also reflect the monopolistic power of the larger firms in the product market.[8]

On the whole, it seems that the above findings were as expected and credible. An earlier survey generally supports these findings (see Table 12).[9] In Table 12, there might be some discrepancies in the outcome across firms of different sizes, which were classified in greater detail in the larger groups, but the trends indicate that the performance indicators, viz., capital intensity, labor productivity and average profit per worker, improved with the increasing size of firms. In this survey, an attempt was made to find a more precise relationship between labor productivity and capital intensity by regressing the former on the latter. The result of the regression showed that for every increase in the capital stock provided to a worker, his productivity rose geometrically. Thus, the firms with larger capital stock obtained a much higher increase in output per unit of labor by the same addition to the capital stock than the smaller firms. This rapid rate of acceleration of labor productivity, and therefore of profits, that could be obtained from increasing the capital intensity of the industrial firms urged private entrepreneurs to rapidly expand their scale of operation and make their production more capital intensive.

It is interesting to note that smaller sized firms also substantially engaged in export trade. As shown in Table 13, the share of export sales to total sales of small-sized firms (10-49 employees) was quite high at about 27 per cent, higher than the corresponding share of large-sized firms of about 15 per cent. This indicates that export-led growth could be possible with the full participation of small and medium industries.

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[8] Somsak Tambunlertchai, *Employment Effects of Small and Medium Scale Industries in Thailand*, Discussion Paper, no. 9 (Bangkok: Faculty of Economics, Thammasat University, November 1978).

[9] N.K. Sarkar, *op. cit.*

Table 12: **Performance Indicators of Industrial Establishments in Greater Bangkok by Size of Employment, 1972**

Size of Employment	Average Fixed Assets per Worker (Capital Intensity) (Baht '000)	Average Value Added per Worker (Labor Productivity) (Baht '000)	Average Profit per Worker (Baht '000)
1-5	49.2	18.9	11.3
6-9	17.8	15.4	7.6
10-49	31.3	16.7	9.9
50-99	55.1	46.2	34.1
100-249	91.3	45.3	31.8
250-500	108.6	76.5	61.4
501-1,000	60.1	28.8	19.7
1,000 and over	96.0	56.0	46.3
Average	84.1	48.8	38.5

Source: N.K. Sarkar, *Industrial Structure of Greater Bangkok* (Bangkok: United Nations Asian Institute for Economic Development and Planning, November 1974).

Table 13: **Export Performance of Manufacturing Firms by Size of Employment**

Size Employment	**Value of Production (Baht million)**	**Share in Production (%)**	**Value of Exports (Baht million)**	**Share in Exports (%)**	**Share of Exports in Total Production (%)**
Less than 10	101.5	1.2	19.6	1.1	19.3
10 - 49	1,443.2	16.7	382.0	20.9	26.7
50 - 99	1,472.7	17.0	311.1	17.0	21.0
100-199	1,474.4	17.1	501.0	27.5	34.0
200 and over	4,149.4	48.0	611.5	33.5	14.8
Total	8,641.2	100.0	1,825.2	100.0	21.1

Source: Saeng Sanguanruang, Somsak Tambunlertchai, and Nit Sammapan, *A Study of Small and Medium Scale Industries in Thailand* (Bangkok: National Institute of Development Administration and Faculty of Economics, Thammasat University, 1977), mimeographed (in Thai). Translated into English by the World Bank, Bangkok Office, September 1977.

Public Policies for Small and Medium Industries

In this section, public policies for the promotion of small and medium industries in Thailand are assessed in the context of development planning, investment and financial assistance, and technical and other support to these industries.

Development Planning. The emphasis given to the role of small and medium industries in the industrialization process and economic development varied from plan to plan. In the First Plan (1961-1966), a main objective of the government was to stimulate economic expansion by promoting private investment essentially through the Board of Investment and the Industrial Finance Corporation of Thailand. Cottage and small-scale industries were to receive government support in the form of public utilities, infrastructure and technical assistance.

In the Second Plan (1967-1971), industrial expansion received the same emphasis. Although small-scale industries were recognized to be important, no further policy action was proposed except that industrial estates outside Bangkok were considered to be desirable. The concept of relocation or redistribution of industrial sites was explicitly stated for the first time in the Third Plan (1972-1976).

During the Fourth Plan (1977-1981) both small-scale industries and provincial industrial location received explicit attention. To promote small-scale industries, the government proposed to provide credit, risk insurance, technical assistance, market arrangements and assessment of investment prospects. In regard to provincial industrial location, the Plan promised higher incentives to investors who would invest in areas outside Bangkok. But unfortunately, the national economy was greatly affected by the second oil shock of 1979 as a result of which the Plan was hardly implemented.

The Fifth Plan (1982-1986) was superior to earlier plans in its preparation and implementation. It recognized that the problems of a high import content of raw materials, industrial concentration in Greater Bangkok, disincentives in labor utilization in manufacturing processes and a lack of efficiency in export promotion had not been overcome. It envisaged that small and medium industries would be stimulated to grow faster than large-scale industries and that provincial industries would be allowed to grow faster than in Greater Bangkok. Toward this end, the government offered several additional incentives for labor-intensive small and medium industries and also for provincial industries which generally are cottage or small and medium industries.

However, the interest in small, medium, provincial and rural industries seems to have waned in the Sixth Plan (1987-1991). The success of the export sector in the national economy seems to have diverted the attention of public authorities from the effort to promote these industries. There are at least two possible explanations. One reason is that the export promotion strategy reaped quick results and it was hoped that the imbalances regarding industrial establishments of different sizes might be corrected through a trickle-down process in the sharing of economic benefits. The other reason is that the promotion policies for small and medium industries are difficult to implement. After a few attempts, the authorities concerned lost interest and the promotional effort is virtually at a standstill.

Perhaps the fault lies, among other things, with the defects in the industrial planning system rather than the lack of incentives for small and medium industries. At present, two government organizations are mainly responsible for small and medium industry planning, viz., the National Economic and Social Development Board and the Ministry of Industry. In the Board, the Industrial Planning Section of the Economics Projects Division, the planning unit directly responsible for industries, seems to be eclipsed by the Center of Integrated Plan of Operation which is responsible for the large-scale Eastern Seaboard Development Projects. Another planning unit in the Board, the Rural Poverty Eradication Program, helps to counter the swing toward large projects by concentrating on planning for rural industries. But the outcome still favors large-scale project planning.

The industrial planning for small enterprises is carried out by the Planning Division of the Department of Industrial Promotion in the Ministry of Industry, in collaboration with other units within and outside the Ministry. At the local level, industrial planning is handled by the provincial offices which are required to formulate provincial plans along the guidelines of the national plans.

A recent study of the planning problems in regard to small and medium industries concluded that the planning system had several weaknesses which prevented the plans from being effective policy instruments of the government.[10] First, there was a lack of coordination which resulted in an industrial development strategy inconsistent with the objectives of growth, employment, external balances and distribution. Second, there was a lack of long-term perspectives for the economy as a whole, based on a realistic assessment of the country's resource endowment, potentials and opportunities. Third, there was a lack of planning capability in various agencies and of feedback information from one level to another to enable adjustments in measures and policies. It was considered that, as a result, the policies and measures concerning industrial development had often led to contradictions between efficiency and equity objectives, and for the most part had favored investments in medium and relatively large-scale industries. Consequently, the role of small-scale industries in economic development was virtually overlooked, despite their important contributions to employment, foreign exchange savings and their relative efficiency.

Investment and Financial Assistance. The major investment assistance to industrial firms is at present provided by the Board of Investment. Investment promotion privileges include: (i) exemptions, or reductions up to 50 per cent, of import duties and business taxes on imported machinery and of business taxes on domestically produced machinery; (ii) reductions of up to 90 per cent of import duties and business taxes on imported materials and of business taxes on domestic materials; (iii) exemptions of corporate income taxes for 3-8 years, with the carry-forward of losses for up to five years after the end of the period of exemption; (iv) exclusions from taxable income of fees for goodwill, copyright and other rights for a period of five years after income is derived from the promoted activities; and (v) exclusions from taxable income of dividends derived from the promoted activity during the period of income tax holiday. The Board of Investment may also impose import surcharges on competing imports or request the Ministry of Commerce to ban such imports.

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[10] The study was carried out by Industrial Management Co., Ltd., a subsidiary of the Industrial Finance Corporation of Thailand.

It is obvious that capital-intensive products and processes were encouraged by the exemptions and reductions of import duties and business taxes on machinery. Apart from this, capital-intensive activities were also encouraged by the minimum investment requirements established as a condition for granting promotion privileges to particular activities. These requirements also favored large-scale industry over small and medium firms. Discretionary decision-making by the Board of Investment also favored large, well-established firms and firms located in Greater Bangkok. Thus, the policies of the Board of Investment generally discriminated against provincial manufacturing which was primarily a labor-intensive and small-scale activity.

There were, of course, attempts to correct this locational bias. In 1973 the Board of Investment identified ten investment promotion zones located beyond the 50-kilometer radius of Bangkok for preferential treatment. After the 1977 revision of the Investment Promotion Act, the incentives provided to investments in promoted zones included a reduction of business taxes up to 90 per cent for a certain number of years; a 50 per cent reduction in income tax rates; double deduction from taxable income of the cost of transportation, electricity, and water; and some concessions on the cost of installation and construction. But these policy changes still did not reverse the regional bias of promoted investments. Most of the new promoted firms were still concentrated in or near Bangkok. The reasons were obvious: the special zones were too widespread and the government could not provide sufficient and satisfactory public utilities such as electricity, water and telephone services. In 1978, therefore, the Board of Investment reduced the number of the special zones to four. Still, there has been relatively little interest from investors in these areas because the additional tax incentives were insufficient to compensate for other disadvantages of setting up firms or factories there. Besides, most firms already in existence in the region were of the small-scale type which were not qualified for promotion by the Board of Investment.

Recently, there have been frequent discussions about encouraging foreign investments for small industry to remedy the situation where domestic investments were not forthcoming. On this issue, one view is that promotional concessions to foreign investors for small industry would be tantamount to giving privileges to foreign investors at the expense of domestic small-scale entrepreneurs, further worsening the small-scale industry situation in the country. Moreover, the influx of foreign capital for small industries might destroy existing industries. Thus, foreign direct investment, whether in large or small and medium industries, should be in new products or activities, and not for replacement of existing products or activities.[11]

At present, there are only two public financial institutions that provide intermediate and long-term loans to these industries, viz., the Industrial Finance Corporation of Thailand and the Small Industry Finance Organization. The Industrial Finance Corporation of Thailand was established by a special law in 1959 as a privately owned industrial banking corporation, but the government has a substantial control over its policies and operations. Its major lending policy is normally for assistance to medium or large-scale industrial establishments because it is a profit-seeking organization with high management costs. However, in 1984 it created a special loan unit for small-scale projects with at least Baht 1 million capital to implement its new strategy for strengthening the promotion of small industry and regional development. Until then, it had financed more than 380 small-scale and 270 medium-scale projects, which accounted for about 50 and 35 per cent, respectively, of the total assisted projects. However, in terms of loan amount, small-scale projects accounted for only 8 per cent of the total and medium-scale projects for 25 per cent. It is clear that, despite its special efforts, the Industrial Finance Corporation of Thailand is not a major financial institution for small-scale industries.

The only proper financial institution for small-scale industries operated by the government is the Small Industry Finance Organization, an administrative unit attached to the Department of Industrial Promotion in the Ministry of Industry. Its main objectives are to promote small-scale industries in the manufacturing, services, handicrafts and cottage industry categories through the expansion of old establishments or the creation of new ones. Small scale here refers to firms with less than 50 workers and less than Baht 10 million capital. At present, a loan of up to Baht 500,000 can be borrowed at an interest rate of 10 per cent a year, or more than Baht 500,000 but less than Baht 3 million at an interest rate of 11 per cent a year. The Small Industry Finance Organization, however, cannot process the loan request alone and must refer it to Krung Thai Bank, a government commercial bank, which has the special responsibility for assessing the values of collaterals.

Despite these efforts to promote small industry financing by public authorities, the funds available are grossly inadequate. For instance, in fiscal year 1986, there were 213 loan requests amounting to over Baht 135 million, but only 73 loans totalling Baht 22.3 million or about 6.4 per cent of the credit demand were approved. In fiscal year 1987 the amount of loans approved increased to Baht 37.4 million, which was a large percentage increase, but from an overall perspective it was very small compared with financing by the Industrial Finance Corporation of Thailand and the Board of Investment.

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[11] Somsak Tambunlertchai and Atchana Wattananukit, "Directions of Industrial Development in Thailand" in *Directions of the Thai Economy in the Next Decade* (Bangkok: Faculty of Economics, Thammasat University, February 1986) (in Thai).

Technical and Other Support. Apart from investment and financial assistance, the government also provides technical and managerial assistance to small and medium industries. The government organizations that provide direct technical and managerial assistance, particularly to cottage and small establishments, are the Department of Industrial Promotion in the Ministry of Industry and the Department of Labor in the Ministry of Interior.

The Department of Industrial Promotion, apart from the activities of the Small Industry Finance Organization which, as indicated earlier, is an administrative unit of this department, has the functions of promoting and supporting individuals to become industrial entrepreneurs and helping existing small firms to attain a higher level of efficiency. Its assistance includes industrial consulting services, training in managerial techniques, marketing, and productivity improvement for cottage, small and medium industries. Moreover, it is also trying to encourage and promote the relocation of industries to provincial areas to help rural employment. The promotional activity of the Department of Labor is the administration of the Institute for Skill Development. The Institute operates five centers: one in Bangkok, two in the central and one each in the north and northeast regions. The most important function of the institute is the provision of training courses in vocational skills for youths aged 16-25 years to prepare them for entry into job markets.

There are other organizations that help promote small and medium industries, but their roles or activities may not be clearly distinguished. For example, the Department of Community Development and the Office for Accelerated Rural Development assist rural farm households to start off-farm production projects. However, these are mainly household-oriented activities rather than small or medium industry operations.

Policy Direction

The analysis and discussion in this article indicate that small and medium industries contribute a fair share to the industrialization process and to the overall economy of Thailand. The experience, as evidenced in the national development plans, suggests that the potential of these industries for absorbing labor from the agricultural sector and for creating a more stable industrial base for economic development is well recognized.

Admittedly, the government has provided assistance to cottage, small and medium industries in the form of advice, financing and technical support. It has helped by including small and medium industries in its development planning horizon, by providing necessary infrastructure, investment and financial assistance, and by imparting managerial and skills training. However, the overall effort appears to have been perfunctory rather than extensive or deep-rooted.

The government has thus recognized the importance of small and medium industries as sources of income and employment generation. However, the attention given to these industries appears to have been overshadowed by policies which aimed at higher rates of economic growth or by policies which were less controversial or easy to implement.[12] While the national development plans acknowledged the potential of small and medium industries, systematic and well-defined action plans and programs were not forthcoming. Moreover, investment promotion privileges to rural or provincial industries were not necessarily accompanied with requisite supporting services, and also technical assistance activities have been grossly inadequate.

It would seem that two prerequisites should be met for a systematic and effective effort in promoting small and medium industries in developing countries, including Thailand. First, a deeper knowledge about the strengths and weaknesses and potentials and prospects of small and medium industries is essential. In the case of Thailand, such knowledge is scarce. Several industrial surveys have been conducted. So far one definitive survey was conducted in 1976, and this article draws heavily on this survey. Further research studies need to be carried out to enable the formulation of appropriate policies. Second, no amount of research or policy recommendations can by themselves promote small and medium industries. It is also imperative that the policies be implemented effectively, but this would require a full commitment of the government. In Thailand, this would imply a redirection of development objectives from economic growth and stability at all costs toward a more balanced distribution of economic benefits and welfare. A conducive environment for the promotion of small and medium industries in particular, and sustainable overall economic growth in general, can evolve only when the development direction is clear.

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[12] This does not imply that policies aiming at high growth rates are necessarily bad, but that greater attention should be given to policies favoring more employment.

Promoting Small and Medium Industries: The Korean Experience

Yeo-Gyeong Yun*

The promotion of small and medium-scale industries is politically an attractive policy for achieving social equity and justice and economically desirable for attaining balanced growth. However, in practice, the promotion of these industries is an extremely difficult task, and usually the policies are costly for the government without producing the desired results. The reason is that it is generally difficult for governments to find a common denominator for establishing and executing policies for promoting small and medium industries because of their large numbers and diversity in their nature of business. There is, therefore, no simple or universal policy strategy.

In general, there are two kinds of promotional policies for the development of small and medium industries. One is to create as many industries as possible and help them to survive, and the other is to create and/or help small-scale industries to grow and become medium-scale industries through import substitution for the domestic market and eventually export promotion for the international market. In the case of the Republic of Korea, the government adopted the second approach for promoting small and medium industries.

Strategies for Promoting Small and Medium Industries

There is no shortcut or quick method for promoting small and medium industries. For every industry, regardless of its size, the prerequisite for successful business activity is its ability to penetrate expanding markets, to secure steady sources of raw materials, to acquire reliable production know-how and technology and most important to possess management capability. Therefore, in order to promote small and medium industries, the government must establish the requisite social infrastructure, including technical training, engineering extension services and research and development (R&D) facilities to support the growth of these industries.

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In general, a country in its early stage of economic development needs to meet the basic daily requirements, such as food, clothing and housing, of its population. All industries during this stage are generally small or medium with characteristics of cottage industries and service-oriented industries such as those in wholesale and retail distribution. During this stage of development, the role of the government is minimal being mostly limited to financial support.

In the next stage of development, the government should plan to provide social and physical infrastructure by building roads, improving communication, transportation and utility systems, establishing technological infrastructure, and creating modern financial institutions. Also, the government should take the initiative to build the basic industries according to the country's needs, such as cement, steel and petrochemical industries. In the meantime, large companies will emerge from successful small and medium industries, and some of them will grow into big conglomerates.

The subsequent stage of economic development will involve the promotion of small and medium industries. This will be possible because a new generation of entrepreneurs will have emerged who are ambitious, independent and well educated having had excellent training in large companies, conglomerates, or government agencies. Furthermore, these large companies, conglomerates and government agencies will be the sources of a steady supply of raw materials and also potential markets for the emerging small and medium industries.

The success or failure of a business is dependent on the management team or entrepreneur, and this is especially true for small and medium industries. The government strategy for promoting these industries should be to provide the necessary facilities with no further substantive support so as to encourage the survival of the fittest industries. The promotional effort would consist of four main elements.

First, the government and government agencies should provide the infrastructure for small-scale industries to grow. Such infrastructure would include the establishment of R&D institutes to provide engineering extension services, assist technology transfer and, ultimately, carry out R&D activities. Other support may include management consulting services and technical training. Second, the government should guide the financial institutions to be more aggressive in financing small and medium industries, with preferential collateral requirements for loans to these industries and mandatory requirements for a specific percentage of available funds to be loaned out to them. Third, the government could also provide tax incentives, such as lower tax rates, shorter periods for depreciation allowance and a favorable write-off arrangement on business losses. Fourth, a massive campaign to promote the use of these supportive measures, including lectures, publications, seminars, presentation of case studies, demonstrations and field trips, should be undertaken. The importance of information programs to complement the establishment of infrastructure is often overlooked.

The Korean Experience

Socioeconomic Background

The present policies to promote small and medium industries in the Republic of Korea can best be understood by briefly examining the major stages of development of the economy during the period 1960-1980. Starting from the outbreak of the Korean War and subsequent political turmoil of the 1950s, the period may be divided into three stages: the era of reconstruction in the 1960s, the era of expansion in the 1970s and the era of equality in the 1980s.

The Era of Reconstruction. The first Five-Year Economic Development Plan (1962-1966) was launched when gross national product (GNP) per capita was $87, electric power consumption per capita was only 130 kWh, and the primary sector of the economy contributed over 40 per cent of GNP while the secondary sector's contribution was only 16 per cent. This period was marked by the launching of the government's massive reconstruction programs to create socioeconomic infrastructure. These programs included repair of roads and harbors, development of communication systems, improvement of transportation systems, increases in electric power supply, and implementation of other projects to rebuild the war-torn economy. At the same time, the private sector started to undertake new industries, based on technology transfer, such as cement, oil-refining, petrochemicals and steel.

Faced with an ever-increasing volume of technology imports from abroad, the government realized that to have effective technology transfer, there was a need to strengthen the infrastructure for science and technology. Thus, the government decided to establish a multidisciplinary research institute as a foundation for technology transfer and as a center for indigenous research and development. Such a decision was rather unique for a developing country in the early stages of its development, but it turned out to be one of the most important decisions made during this period by the government.

The Korea Institute of Science and Technology (KIST) was established in 1966 as a joint project between the governments of the Republic of Korea and the United States. The initial project start-up cost was estimated at $12 million, excluding land. Although this amount may seem small by current standards, it was one of the major investment decisions for the Korean government. The investment was made at a time when the per capita GNP was around $100, and a cement plant of a capacity of 200,000 metric tons a year could be constructed for only $5 million. This bold and big investment decision was made in the hope that KIST would play the role of a catalyst, leading toward self-reliance in technology in the near future. In retrospect, one of the major contributions of KIST during the 1960s was to demonstrate to the local industry as well as to government agencies that technology had to be considered in terms of cost and benefit. Good technology would cost money but bring profit to business if well managed. During the 1960s, KIST also created confidence in indigenous R&D activities and sparked a substantial increase in the number of research institutes established by private companies during the following decade.

The Era of Expansion. The 1970s was an era of most rapid economic growth in the history of modern Korea. GNP per capita increased from $248 in 1970 to $1,662 in 1979, based on current prices in terms of U.S. dollars. This was a 570 per cent increase in ten years. The contribution to GNP of the primary sector declined from 26.5 per cent in 1970 to 18.5 per cent in 1979, whereas the share of the secondary sector increased from 22.3 per cent to 28.7 per cent during the same period. The manufacturing industry production index showed a dramatic increase during this period. Based on a scale with the year 1980 being 100, the production index in 1970 was 16.3 and by 1979 it had increased to 101.9. During this period, the theory of the survival of the fittest prevailed in the business community. There were many large corporations in the early 1970s which later faltered or became bankrupt. This was also the time for the establishment of many new large conglomerates. For example, in 1972 the total sales volume of the Samsung Group was $205 million; by the end of 1979, sales volume was more than $3 billion and accounted for 5.1 per cent of GNP. The dramatic emergence of these large companies fostered a pool of extremely competent young professional managers and engineers who now constitute the main source of future entrepreneurs for small and medium industries.

The Era of Equality. The rapid growth of these conglomerates was largely the result of government policies in the 1970s. The government's present policy is to promote small and medium industries. Table 1 gives basic data on the changing importance of these industries in the manufacturing and mining sector. It shows that, as discussed above, the contribution of small and medium industries declined during the 1960s and the first half of the 1970s but, subsequently, it began to increase. In 1960 small and medium industries accounted for 78 per cent of the employment and 66 per cent of the value added in the manufacturing and mining sector, but by 1975 these shares had declined to 45 per cent and 31 per cent, respectively. However, after 1975 there was a definite reversal of the trend, and by 1985 the share in employment had increased to 56 per cent and that in value added to 38 per cent. Some of the major beneficiaries of the government's promotional policies in the 1980s will be the technology-oriented small and medium industries. This new emphasis will help to maintain the steady growth of the economy and to establish social equality as the country moves rapidly toward becoming a "developed" economy.

Infrastructure and Policies for Promoting Small and Medium Industries

During the past two decades, the government has played an increasingly

Table 1: **Contribution of Small and Medium Industries to the Manufacturing and Mining Sector, 1960-1985**

Stage of Development	**Year**	**Indicator**	**Companies (Number of Units)**	**Employees (Number)**	**Production (Won 100 million)**	**Value Added (Won 100 million)**
Era of Reconstruction	1960	Total sector	15,204	275,254	597	223
		Small and medium industries	15,067	215,677	399	148
		% of total	99.1	78.1	66.8	66.3
	1965	Total sector	22,718	566,655	4,174	1,562
		Small and medium industries	22,337	341,422	1,902	664
		% of total	98.3	60.3	45.2	42.5
Era of Expansion	1970	Total sector	25,816	937,050	13,878	5,882
		Small and medium industries	25,037	451,465	4,156	1,647
		% of total	96.9	48.4	30.0	28.0

	1975	Total sector	24,229	1,503,220	83,406	29,458
		Small and medium industries	23,304	685,050	25,556	9,284
		% of total	96.2	45.2	30.6	31.3
Era of Equality	1980	Total sector	32,560	2,098,873	368,173	122,329
		Small and medium industries	31,466	1,035,886	117,634	42,921
		% of total	96.6	49.4	32.0	35.1
	1985	Total sector	45,933	2,528,522	780,757	274,955
		Small and medium industries	44,803	1,413,819	277,768	103,722
		% of total	97.5	55.9	35.6	37.7

Note: Definition of small and medium industries: before 1973 having 5 to 200 employees; after 1973 having 5 to 300 employees.

Source: Economic Planning Board, Republic of Korea, *Census of Mining and Manufacturing* (1960 to 1986).

active role in establishing the institutional infrastructure and introducing policy measures aimed at encouraging small and medium industries. The more important elements of the institutional and policy framework are described below.

Small and Medium Industry Promotion Corporation (SMIPC). SMIPC was established in 1979 as a government agency to provide management and technical extension services and training through the use of local and foreign experts and skilled technicians. It provides financial assistance to enterprises in the form of loans for the purchase of production equipment and facilities and for working capital at slightly more favorable terms than those of commercial banks. It also leases necessary equipment on a long-term basis at a low fee. It operates a business start-up program under which new businesses are given financial assistance for the commercial use of innovative technologies and development of new products.

Korea Institute for Economics and Technology (KIET). KIET, a government-sponsored autonomous economic research institution and technical information services center, was established in 1982. Its major activities consist of area and industry studies, studies on international economic developments, information dissemination services and business consultation services, especially for small and medium industries.

The area studies address the economic and business conditions of individual countries and regions in the context of the changing world economic and political environment to help private enterprises identify trading opportunities. The industry studies involve both macroeconomic and microeconomic analysis of the industrial sector to identify business opportunities in the Korean economy. The information dissemination services provide information on industrial technology patents and on the international market environment for small and medium industries. KIET provides business consultation services and extension services to individual enterprises covering technology, marketing and financing in cooperation with four major economic associations, nine science and technology research institutes, 16 financial institutions and six public corporations for the promotion of small and medium industries.

Research and Development Institutes. By the end of the 1970s, when GNP per capita had reached $1,600, the technology requirements of industry had changed drastically in quality and quantity. First, the large corporations had accumulated sufficient technological competency to cope with the day-to-day operational technical problems. Moreover, they began to feel the need for their own R&D organization to carry out short-term applied research activities. Second, the increase in demand for engineering extension services among small and medium industries was so great that it was logistically impossible for KIST to deal with these problems alone. Third, after the oil crisis and the subsequent unfavorable changes in the international trading environment, an urgent need was felt in the government and the R&D community for long-term applied research to develop technology-intensive industries in the country.

Faced with a new dimension of technological needs and a sudden increase in the need for technical services, and in order to carry out short-term applied research activities especially for small and medium industries, the government decided to establish research institutes in the fields of electronics, telecommunications, energy and natural resources, chemical engineering and mechanical engineering. The government also encouraged the larger corporations to establish their own research organizations with tax incentives and other financial assistance. KIST, whose name was changed to Korea Advanced Institute of Science and Technology (KAIST), was to concentrate on long-term applied research for the development of new and advanced technologies, such as new materials, bioengineering, electronic devices and new chemical processes to conserve energy and materials.

Encouraged by government policy to promote R&D activities within industries, many small and medium industries began to carry out their own R&D activities by establishing small organizations (see Tables 2 and 3). Also, these industries actively participate in the research associations promoted by government agencies to solve their common problems. Under this arrangement all association members share the costs and results of R&D. The numbers of R&D associations and of participating companies, especially of small and medium industries, have been increasing over the past several years (see Tables 4-6).

Public Policy Changes to Promote Small and Medium Industries. The government has given high priority to the promotion of small and medium industries in its National Economic Development Plan (1987-1991). It is accordingly strengthening its promotional policy, including tax incentives, for small and medium industries. Also, in recent years, the financial institutions have changed their policies aimed at becoming more active in supporting these industries. A government-sponsored committee has been established to coordinate and report on the activities of these financial institutions and to deal with problems encountered in their efforts to support small and medium industries. The members of the committee represent SMIPC, KIET and all the financial institutions.

Development of Venture Capital Financing. Venture capital, because of its unique nature and as one of the important finance infrastructures, can help promote small and medium industries based on the free enterprise system. Since the objective of venture capital is to maximize capital gains through equity investment, it constantly seeks business opportunities with growth potential. It is, therefore, particularly attracted to small and medium industries because the growth potential is usually much greater in such industries that are technology oriented than in large corporations. Also, large corporations can usually raise equity directly and, therefore, seldom have the need for venture capital financing.

Currently, there are two major laws in the Republic of Korea for the

Table 2: **Number of Private Research and Development Institutes**

Item	**1981**	**1982**	**1983**	**1984**	**1985**	**1986**	**1987**
Total	53	83	122	152	183	290	455
Small and Medium Industries	—	2	9	18	18	92	201

— = nil.

Source: Ministry of Science and Technology, Republic of Korea, *Annual Report for Science and Technology* (1987).

Table 3: **Number of Private Research and Development Institutes by Size of Staff, 1987**

Item	**5 - 9**	**10 - 29**	**30 - Over**	**Total**
Small and Medium Industries	121	76	4	201
Large Companies	—	102	152	254
Total	121	178	156	455

— = nil.

Source: Ministry of Science and Technology, Republic of Korea, *Annual Report for Science and Technology* (1987).

Table 4: **Research and Development Associations of Industries**

Item	**1982**	**1983**	**1984**	**1985**	**1986**	**1987**
Number of Associations	11	15	19	23	28	35
Number of Association Members	56	91	236	275	372	480

Source: Ministry of Science and Technology, Republic of Korea, *Annual Report for Science and Technology* (1987).

Table 5: **Research and Development Associations of Industries by Activity, 1987**

Item	**Machinery and Metal**	**Electric and Electronics**	**Information Industries**	**Chemical Engineering**	**Energy and Resources**	**Total**
Number of Associations	11 (6)	17 (11)	1 (1)	5 (-)	1 (1)	35
Number of Association Members	72 (58)	163 (110)	55 (50)	75 (5)	115 (111)	480 (334)

— = nil.

Note: Figures in parentheses refer to small and medium industries.

Source: Ministry of Science and Technology, Republic of Korea, *Annual Report for Science and Technology* (1987).

Table 6: **Numbers of Technology Transfers from Abroad by Size of Business, 1962-1987**

Item	**1962-1966**	**1967-1971**	**1972-1976**	**1977-1981**	**1982-1986**	**1987**	**Total 1962-1987**
Large Companies	26 (78.8)	178 (62.5)	293 (67.5)	796 (65.0)	1,042 (50.1)	264 (41.4)	2,599 (55.4)
Small and Medium Industries	7 (21.2)	107 (37.5)	141 (32.5)	425 (34.7)	1,030 (49.6)	367 (57.6)	2,077 (44.3)
Others	—	—	—	4 (0.3)	6 (0.3)	6 (1.0)	16 (0.3)
Total	33	285	434	1,225	2,078	637	4,692

— = nil.

Note: Figures in parentheses are percentages.

Source: Ministry of Science and Technology, Republic of Korea, *Annual Report for Science and Technology* (1987).

promotion of venture capital financing: the Small and Medium-Sized Venture Business Creation Act (Small and Medium Enterprise Start-up Promotion Law); and the Venture Capital Industry Promotion Law.

The Small and Medium-Sized Venture Business Creation Act was promulgated in May 1986 and is administered by the Ministry of Trade and Industry. It is aimed at promoting the establishment of as many small and medium industries as possible. A company established under this legislation is allowed only to invest in the form of equity and in the start-up operation. Thus, the company has to bear higher risks under limited business activities. To compensate for this and in order to have as many companies as possible established under this legislation, the Ministry of Trade and Industry added the following promotional measures: financial support in the form of government equity participation and loans; permission for an investment company to mobilize funds through a *Chohap* (limited partnership) and for the investment company to issue company bonds and borrow funds from outside; exemption from corporate income tax on capital gains; permission for an investment company to have reserves for investment losses for tax purposes; and application of special favorable rates of personal and corporate income tax for those who receive dividends and/or capital gains from their investment in an investment company and/or a *Chohap*. After two years of operation, these companies will be evaluated by the government, and some will be selected under the Venture Capital Promotion Law. As a result of this incentive, many private companies were established, and by the end of 1987 there were 15 companies established under this legislation.

The Venture Capital Industry Promotion Law was promulgated in December 1986 and is administered by the Ministry of Finance. The objective of this law is the promotion of venture capital financing for small and medium industries. A company established under this legislation can undertake equity and loan investment in new technology-oriented enterprises, consulting services in management and technology, management of an investment *Chohap* (a partnership for venture capital funds), leasing and factoring, and other related activities. Also, this legislation provides promotional measures by allowing a venture capital company to raise and manage funds in the form of an investment *Chohap* and to issue company bonds and borrow funds, by providing for exemption from corporate income tax on the capital gains of a venture capital company, by allowing a venture capital company to have reserves for investment losses for tax purposes, and by the application of special favorable rates of personal and corporate income tax for those who receive dividends and/or capital gains from their investment in a venture capital company and/or an investment *Chohap*.

The companies established under this legislation are allowed to carry out all the business activities that a normal venture capital company conducts in other countries, such as investing in start-up operations, expansion programs and bridge financing in the forms of equity financing and loans. In addition, it allows a venture capital company to conduct leasing operations and factoring which are considered to be the most attractive financing business in the country but for which it is normally very difficult to obtain government approval. There has been a large demand for registration under this legislation for conducting leasing and factoring operations. However, currently, four companies are allowed to carry out such operations, viz., Korea Technology Advancement Corporation, Korea Technology Development Corporation, Korea Development Investment Corporation and Korea Technology Finance Corporation.

Potential Entrepreneurs. The Korean economy has been one of the fastest growing economies in the world. It is expected to sustain this growth in the future, which implies more business opportunities, especially in technology-oriented activities. Many Korean companies have grown into large conglomerates by international standards. These developments suggest that the country has, and will have, more able, ambitious and independent young professional engineers and managers who have been well trained in large companies and the R&D institutes. They will be the future entrepreneurs of small and medium industries.

TRI-GEM Computer, Inc.: A Case Illustration

Industrial development in the Republic of Korea has been characterized by entrepreneurial motivation which, in turn, has been encouraged by government policies and incentives. This can best be evinced by a case illustration, the following being a typical example of Korean entrepreneurship.

Y.T. Lee was one of the pioneers in introducing electronic data processing (EDP) systems in the 1960s as the deputy director of the computer center of the Korea Institute of Science and Technology. He resigned from that institute and established the Korea Software Institute in 1977 and in 1980 started TRI-GEM Computer, Inc., with a paid-in capital of $12,000. Within a year, TRI-GEM was able to produce the SE-8001 model computer (an 8-bit compatible with Sharp of Japan) which was the first personal computer produced in the country. For the marketing of the personal computer, another company, Elex Corporation, was established in 1981, which also marketed imported minicomputers and peripherals to spread overhead costs of marketing during the early stages of operation.

Although the sales of the first model reached a satisfactory level of $0.5 million in 1982, TRI-GEM decided to develop a second model, TG-20 (an 8-bit Apple compatible), to prepare itself for future competition. In 1983, TG-20 was introduced successfully in the Korean market and was accepted as the best home computer available then, and some were even exported to Canada. In 1983 TRI-GEM also started to produce line printers under license from Epson of Japan. These were the first line printers produced in the Republic of Korea.

Based on its two-year record and future prospects, TRI-GEM approached the Korea Development Investment Corporation, the only private venture capital company in the country, for financial support. The Corporation decided to provide financial support in the form of equity participation as well as debentures and unsecured loans. With these funds, TRI-GEM completed the construction of its own plant in 1984. Also, in January 1984, the three companies, viz., Korea Software Institute, TRI-GEM and Elex Corporation were merged into TRI- GEM Computer, Inc., with a combined paid-in capital of $1.2 million.

During 1983 and 1984, every major electronic equipment manufacturer in the country started to produce personal computers and, in addition, numerous small manufacturers of personal computers emerged throughout the country. During this period, there were more than 50 manufacturers of such computers, but the domestic market then was not large enough to absorb the entire output and many firms could not survive. By the end of 1984, there were only 20 manufacturers which, together with the personal computer divisions of three major electronic appliance manufacturers, incurred substantial losses during 1984. But annual sales of TRI-GEM in 1984 reached $10 million and a modest profit was realized. During the chaotic period of 1983-1984, TRI-GEM established itself as one of the major manufacturers of quality personal computers in the country with a 30 per cent market share.

However, to sustain growth, TRI-GEM had to seek opportunities in export markets. Since 1983, TRI-GEM started to export its TG-20 in small quantities to Canada, Europe and Southeast Asia. However, in the U.S. market, the largest personal computer market in the world, the TG-20 faced a problem of infringement of copyright with the Apple Computer. TRI-GEM therefore in 1983 decided to develop a new model for the U.S. market. In cooperation with the U.S. firm, Personnel Computer Products, Inc., TRI-GEM developed the TG-88 (a 16-bit IBM compatible) which had no copyright problems in the U.S. market. The TG-88 was also successful in the domestic market and in other export markets. However, it was not until the end of 1985 that TRI-GEM started to export the TG-88 to the U.S. market after establishing a sales and service network in that country. In 1986, TRI-GEM became an exclusive OEM maker for ComputerLand (U.S.) and it also started to manufacture personal computers for Seiko-Epson (Japan).[1]

The success story of TRI-GEM is indeed very impressive. It grew from a small to a medium-sized company and is about to become a large corporation.[2] However, the success of TRI-GEM can be largely attributed to four factors. First, three key members of the initial staff had extensive field training and experience in large corporations and R&D institutes. Second, adequate technical and business information was available to the managers. Third, there was a demand for the company's products in the domestic market. Fourth, there was a timely emergence of venture capital financing to assist TRI-GEM in its expansion program. Thus, although there was no direct government assistance to TRI-GEM, the government had established the necessary infrastructure for the promotion of small and medium industries. For its part, TRI-GEM took full advantage of the available facilities.

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[1] TRI-GEM's business association with Seiko-Epson started in 1983 with an exclusive licensing agreement for the manufacture of line printers in the Republic of Korea. In 1987 Seiko-Epson became a 25 per cent owner of TRI-GEM by paying 600 per cent over par value for new common stock issued to it.

[2] TRI-GEM is expected to have in 1988 a total sales of about $140 million and about 1,000 employees.

As indicated in the case illustration of TRI-GEM, a potential entrepreneur in the Republic of Korea has access to institutions for business proposals and for information on markets and the available technologies at home and abroad. Moreover, there are appropriate research institutes for review and development of suitable technologies and also sources of various types of institutional financing, including venture capital.

The Korean experience involved the distinct roles of the public and private sectors. Initially, the public sector — the government and its agencies — played the leading role in establishing the required infrastructure and encouraging the private sector to make use of these facilities and services to its advantage. Subsequently, the role of the public sector gradually declined as the private sector assumed an increasingly active role. In this process, the close coordination between the two sectors was a key factor in the successful promotion of small and medium industries.

The promotion of small and medium industries is a continuing challenge to economic development planners, policymakers and entrepreneurs in developing countries. The process is rather tedious, time-consuming and often involves use of scarce resources with little visible immediate results. The Korean experience has not been without failures, nor does it represent the only path to be followed by other developing countries. It is, however, one of the tested approaches for promoting small and medium industries and is itself subject to change over time as needs arise.

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